

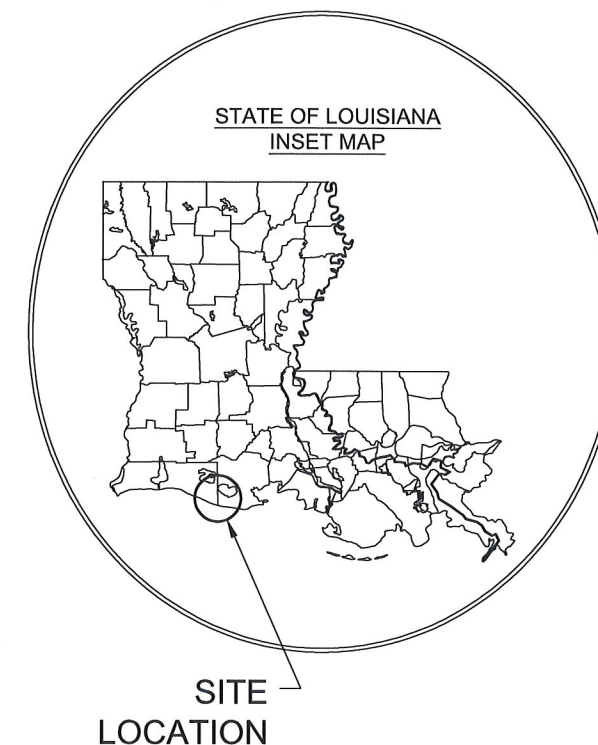
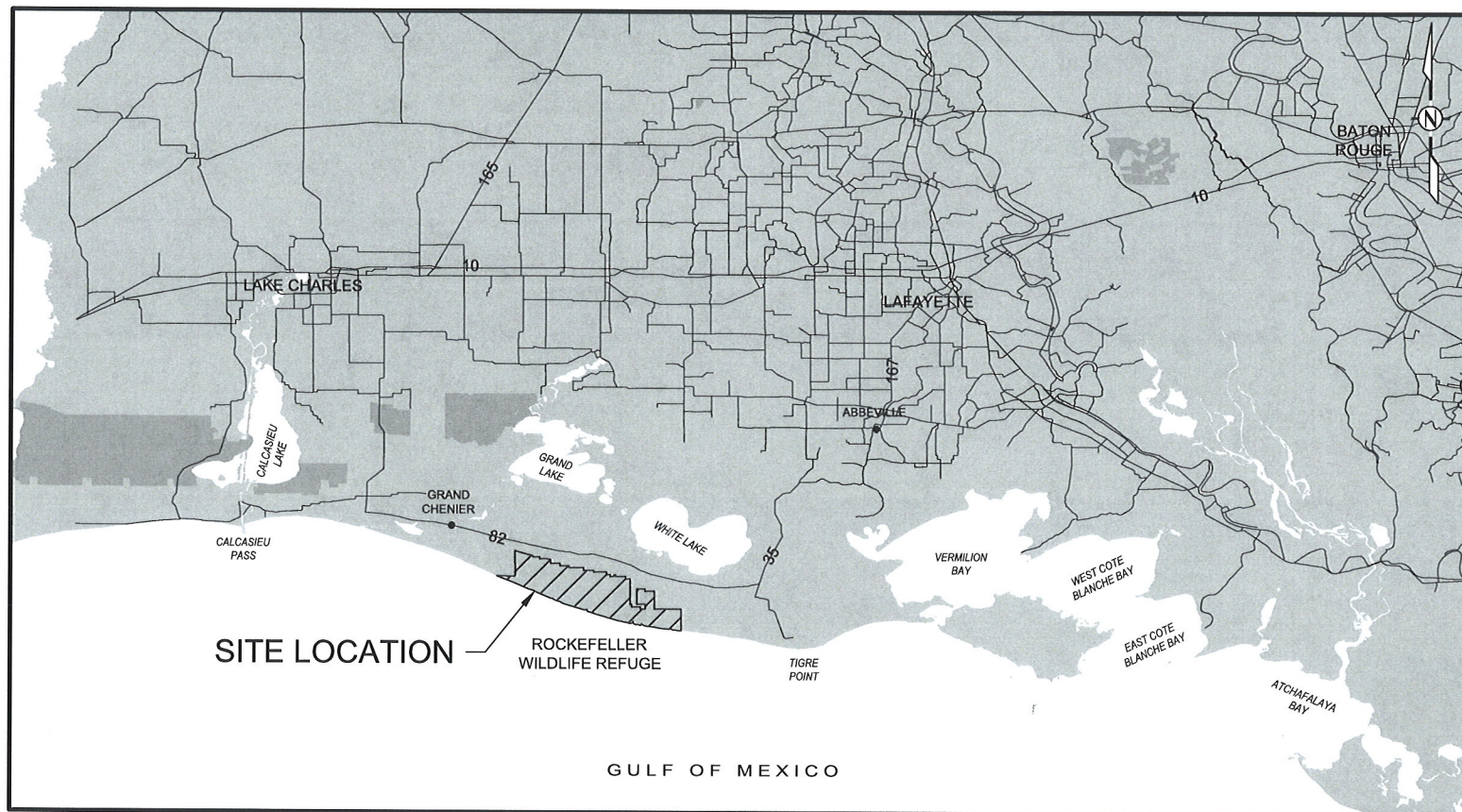
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STATE OF LOUISIANA  
COASTAL PROTECTION AND RESTORATION AUTHORITY

ROCKEFELLER REFUGE  
GULF SHORELINE STABILIZATION PROJECT

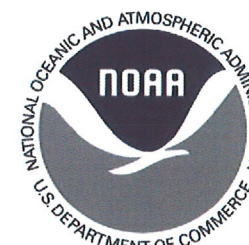
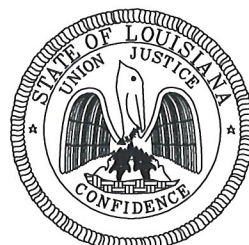
ME-18  
CAMERON PARISH, LOUISIANA



**CALL BEFORE YOU DIG!**  
LOUISIANA ONE CALL PARTICIPANTS REQUEST  
48 HOURS NOTICE BEFORE YOU DIG,  
DRILL, OR BLAST - STOP CALL  
**Louisiana One Call System**  
1-800-272-3020

LICENSURE CLASSIFICATION REQUIREMENTS

MAJOR CLASSIFICATION: HEAVY CONSTRUCTION



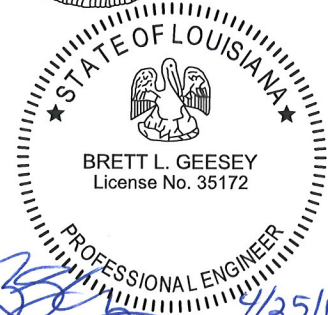
CHIEF, ENGINEERING DIVISION

ENGINEER MANAGER

ENGINEER SUPERVISOR

PROJECT ENGINEER INTERN

<b>HDR</b> HDR ENGINEERING, INC.					
	0	04/25/17	ISSUED FOR BIDDING	BLG	
REV.	DATE	DESCRIPTION	BY		



COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		TITLE SHEET
		STATE PROJECT NUMBER: ME-18		
DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.		DATE: APRIL 2017
APPROVED BY: BRETT L. GEESEY, P.E.				SHEET 1 OF 23



GENERAL NOTES:

1. CONTRACTOR SHALL ACCESS PROJECT SITE FROM A NAVIGABLE WATER BODY. DREDGING FOR SITE ACCESS SHALL ONLY BE PERFORMED WITHIN THE LIMITS SHOWN FOR TEMPORARY FLOTATION CHANNELS.
2. CONTRACTOR SHALL PERFORM A HAZARD SURVEY AND LOCATE ALL UTILITIES AND OBSTRUCTIONS PRIOR TO COMMENCING WORK (REFER TO SHEET 4, "EXISTING SITE PLAN"). ALL PIPELINES AND UNDERGROUND UTILITIES SHALL BE MARKED WITH BUOYS BY CONTRACTOR. CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION. CONTRACTOR SHALL NOT ANCHOR, SPUD, OR EXCAVATE WITHIN 100 FEET OF ANY PIPELINE. CONTRACTOR SHALL CONTACT LOUISIANA ONE CALL AT 1-800-272-3020 AT LEAST 5 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
3. PROJECT IS WITHIN AND ADJACENT TO ENVIRONMENTALLY-SENSITIVE AREAS. CONTRACTOR SHALL AVOID / MINIMIZE IMPACTS TO THESE AREAS DURING THE COURSE OF WORK. OWNER RESERVES THE RIGHT TO SUSPEND WORK AT ANY TIME IF IMPACTS OCCUR UNTIL SATISFACTORY CORRECTIVE MEASURES ARE IMPLEMENTED BY CONTRACTOR TO THE SATISFACTION OF REGULATORY AGENCIES AND/OR ROCKEFELLER WILDLIFE REFUGE (REFUGE).
4. CONTRACTOR SHALL BE FAMILIAR WITH EXISTING SOFT SOIL CONDITIONS AT THE WORK SITE. SOIL BORING LOCATIONS AND GEOTECHNICAL INFORMATION ARE PROVIDED ON SHEET 4 AND IN APPENDIX E OF THE SPECIFICATIONS. IN PREPARING BIDS, CONTRACTORS SHALL ANTICIPATE AVERAGE CONSTRUCTION SETTLEMENTS OF UP TO 2 FEET. REFER TO PLACEMENT CRITERIA ON THESE DRAWINGS AND IN THE SPECIFICATIONS.
5. SIGNIFICANT COASTAL EROSION AND SHORELINE RETREAT HAS OCCURRED AT THE PROJECT SITE SINCE COLLECTION OF THE TOPOGRAPHIC AND BATHYMETRIC SURVEYS SHOWN ON THESE DRAWINGS. ACTUAL LOCATION OF CONSTRUCTION BASELINE AND OFFSETS TO PROPOSED WORK WILL BE DETERMINED BY ENGINEER PRIOR TO CONSTRUCTION BASED ON RESULTS OF CONTRACTOR'S INITIAL SURVEY.
6. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ENGINEER.
7. THE PROJECT IS LOCATED IN THE GULF OF MEXICO WITHIN THE ROCKEFELLER WILDLIFE REFUGE AND IS MANAGED BY THE LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES. CONTRACTOR SHALL FOLLOW ALL RULES AND REGULATIONS FOR WORKING WITHIN ROCKEFELLER WILDLIFE REFUGE. A COPY OF THE REGULATIONS, INCLUDING CONTACT INFORMATION, IS PROVIDED IN APPENDIX H.
8. CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS, OBTAIN PERMISSION FROM APPLICABLE PROPERTY OWNERS, AND PAY ALL ASSOCIATED FEES FOR STAGING, FABRICATION, AND LOADING BARGES ON PRIVATE PROPERTY. ACCESS TO THE BOAT LAUNCH OFF HWY 82 FOR JOSEPH HARBOR BAYOU CROSSES PRIVATE PROPERTY. MR. RICHARD STURLESE SHALL BE CONTACTED TO DISCUSS ACCESS REQUIREMENTS, INCLUDING A POSSIBLE FEE, PRIOR TO BIDDING. MR. STURLESE CAN BE REACHED AT 337-993-0962, CELL 337-278-0119. UPON SIGNING CONSTRUCTION CONTRACT, CONTRACTOR ACCEPTS RESPONSIBILITY FOR ACQUISITION OF ALL PERMISSIONS, AUTHORIZATIONS, EASEMENTS, AND / OR ACCESS AGREEMENTS NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
9. WATER DEPTHS VARY AND MAY NOT ACCOMMODATE DRAFT OF FULLY-LOADED BARGES. PROVISIONS SHALL BE MADE TO ACCESS SHALLOWER AREAS THROUGH USE OF LIGHT-LOADED BARGES OR OTHER EQUIPMENT SUITED TO SHALLOWER WATER.
10. AT CONTRACTOR'S OPTION, TEMPORARY FLOTATION CHANNELS MAY BE MECHANICALLY DREDGED (VIA SIDECASTING) TO FACILITATE ACCESS BY DEEPER DRAFT BARGES. STOCKPILES OF SIDECAST MATERIAL SHALL BE MARKED WITH TEMPORARY WARNING SIGNS AS SHOWN. UPON COMPLETION OF THE WORK, FLOTATION CHANNELS SHALL BE BACKFILLED WITH SIDECAST MATERIAL AND TEMPORARY WARNING SIGNS SHALL BE REMOVED. SEE SPECIFICATION TS-6 ACCESS AND FLOTATION CHANNELS FOR ADDITIONAL REQUIREMENTS.
11. CONTRACTOR SHALL TAKE PRECAUTIONS, SECURE EQUIPMENT, AND PROTECT THE WORK AGAINST ADVERSE WEATHER CONDITIONS REGARDLESS OF MARINE CONDITIONS.
12. REGULATORY AUTHORIZATIONS OBTAINED BY THE OWNER ARE INCLUDED IN APPENDIX G. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND THE CONSTRUCTION DOCUMENTS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. ALL OTHER REGULATORY AUTHORIZATIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

















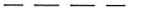




SURVEY NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88) IN U.S. SURVEY FEET (FEET) GEOID 99. ALL HORIZONTAL COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD'83), LOUISIANA STATE PLANE, SOUTH ZONE, IN FEET.
2. TIDAL DATUMS IN THE TABLE ON THIS SHEET ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THE DATUMS SHOWN REPRESENT CONDITIONS AT NEARBY TIDE STATIONS AND DO NOT NECESSARILY REPRESENT CONDITIONS AT THE PROJECT SITE.
3. MONUMENTS USED FOR SURVEY CONTROL ARE SHOWN ON SHEET 3. SURVEY CONTROL EMPLOYED DURING CONSTRUCTION SHALL MATCH SURVEY CONTROL PUBLISHED IN THESE CONTRACT DOCUMENTS. TO MAINTAIN CONSISTENCY BETWEEN PROJECT DESIGN AND CONSTRUCTED WORK, UPDATES, CORRECTIONS OR OTHER CHANGES PUBLISHED BY NATIONAL GEODETIC SURVEY AND/OR OTHER ENTITIES FOR THESE CONTROL MONUMENTS SHALL NOT BE APPLIED WITHOUT PRIOR WRITTEN CONCURRENCE BY ENGINEER.
4. EXCEPT AS NOTED OTHERWISE, SPOT ELEVATIONS AND SURVEY TRANSECTS ARE BASED ON SURVEYS CONDUCTED BY JOHN CHANCE LAND SURVEYS, INC. DURING SEPTEMBER 2013 AND APRIL AND MAY 2014.

ABBREVIATIONS:

SWL	STILL WATER LEVEL
LWA	LIGHTWEIGHT AGGREGATE
HDG	HOT DIP GALVANIZED
GRR	GRADED RIPRAP
NIC	NOT IN CONTRACT
CCA	CHROMATED COPPER ARSENATE
N.T.S.	NOT TO SCALE
O.H.	OPPOSITE HAND
LDB	LIGHTED DAYBEACON


LEGEND:

	SURVEY CONTROL MONUMENT
	EXISTING MAGNETOMETOR ANOMALY
	SETTLEMENT PLATE
	HAZARD
	APPROXIMATE LOCATION OF SOIL BORING/PROBE
	LIGHTED DAYBEACON
	TEMPORARY WARNING SIGNS
	SPOT ELEVATION (FT.)
	BREAKWATER ALIGNMENT POINT
	BREAKWATER FOOTPRINT
	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE
	EXISTING OYSTER RING BREAKWATER (NIC)
	GEOTEXTILE COMPOSITE
	GEOTEXTILE SHROUD
	CONSTRUCTION BASELINE
	EXISTING PIPELINE
	ELEVATION CONTOUR (FT.)

SUMMARY OF ESTIMATED QUANTITIES			
BASE BID (BREAKWATER ALIGNMENT C1 - C25, B1 - B11 AND A33 - A25)			
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
1.1	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
1.2	TOPOGRAPHIC AND BATHYMETRIC SURVEYING	LUMP SUM	1
1.3	PRE-CONSTRUCTION HAZARD SURVEY	LUMP SUM	1
1.4	AERIAL PHOTOGRAPHY	LUMP SUM	1
1.5	GEOTEXTILE COMPOSITE	LINEAR FEET	9,830
1.6	BEDDING LAYER STONE	TONS	18,700
1.7	ARMOR STONE	TONS	122,500
1.8	ENCAPSULATED LIGHTWEIGHT AGGREGATE	CU. YDS.	27,700
1.9	SETTLEMENT PLATES	EACH	11
1.10	LIGHTED DAYBEACONS	EACH	6
ADDITIVE ALTERNATE NO. 1 BREAKWATER ALIGNMENT A25 - A13			
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
2.1	ADDITIONAL MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
2.2	ADDITIONAL TOPOGRAPHIC AND BATHYMETRIC SURVEYING	LUMP SUM	1
2.3	ADDITIONAL PRE-CONSTRUCTION HAZARD SURVEY	LUMP SUM	1
2.4	ADDITIONAL AERIAL PHOTOGRAPHY	LUMP SUM	1
2.5	ADDITIONAL GEOTEXTILE COMPOSITE	LINEAR FEET	2,720
2.6	ADDITIONAL BEDDING LAYER STONE	TONS	5,300
2.7	ADDITIONAL ARMOR STONE	TONS	34,000
2.8	ADDITIONAL ENCAPSULATED LIGHTWEIGHT AGGREGATE	CU. YDS.	7,000
2.9	ADDITIONAL SETTLEMENT PLATES	EACH	3
2.10	ADDITIONAL LIGHTED DAYBEACONS	EACH	2
ADDITIVE ALTERNATE NO. 2 BREAKWATER ALIGNMENT A13 - A2			
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
3.1	ADDITIONAL MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
3.2	ADDITIONAL TOPOGRAPHIC AND BATHYMETRIC SURVEYING	LUMP SUM	1
3.3	ADDITIONAL PRE-CONSTRUCTION HAZARD SURVEY	LUMP SUM	1
3.4	ADDITIONAL AERIAL PHOTOGRAPHY	LUMP SUM	1
3.5	ADDITIONAL GEOTEXTILE COMPOSITE	LINEAR FEET	1,790
3.6	ADDITIONAL BEDDING LAYER STONE	TONS	3,400
3.7	ADDITIONAL ARMOR STONE	TONS	22,300
3.8	ADDITIONAL ENCAPSULATED LIGHTWEIGHT AGGREGATE	CU. YDS.	3,200
3.9	ADDITIONAL SETTLEMENT PLATES	EACH	2
3.10	ADDITIONAL LIGHTED DAYBEACONS	EACH	1
ADDITIVE ALTERNATE NO. 3 BREAKWATER ALIGNMENT A2 - A1			
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
4.1	ADDITIONAL MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
4.2	ADDITIONAL TOPOGRAPHIC AND BATHYMETRIC SURVEYING	LUMP SUM	1
4.3	ADDITIONAL PRE-CONSTRUCTION HAZARD SURVEY	LUMP SUM	1
4.4	ADDITIONAL AERIAL PHOTOGRAPHY	LUMP SUM	1
4.5	ADDITIONAL GEOTEXTILE COMPOSITE	LINEAR FEET	350
4.6	ADDITIONAL BEDDING LAYER STONE	TONS	850
4.7	ADDITIONAL ARMOR STONE	TONS	5,600
4.8	ADDITIONAL ENCAPSULATED LIGHTWEIGHT AGGREGATE	CU. YDS.	1,100

TIDAL DATUMS		
DATUM	ELEVATION REFERENCED TO NAVD 88, FT	
	GRAND ISLE, LOUISIANA NOAA STATION 8761724	SABINE PASS NORTH, TEXAS NOAA STATION 8770570
MHHW	+0.98	+1.23
MHW	+0.97	+1.13
MTL	+0.45	+0.58
MSL	+0.46	+0.59
MLW	-0.07	+0.04
MLLW	-0.08	-0.37
MINIMUM RECORDED WATER LEVEL	-3.15 (01/13/64)	-4.12 (01/19/96)

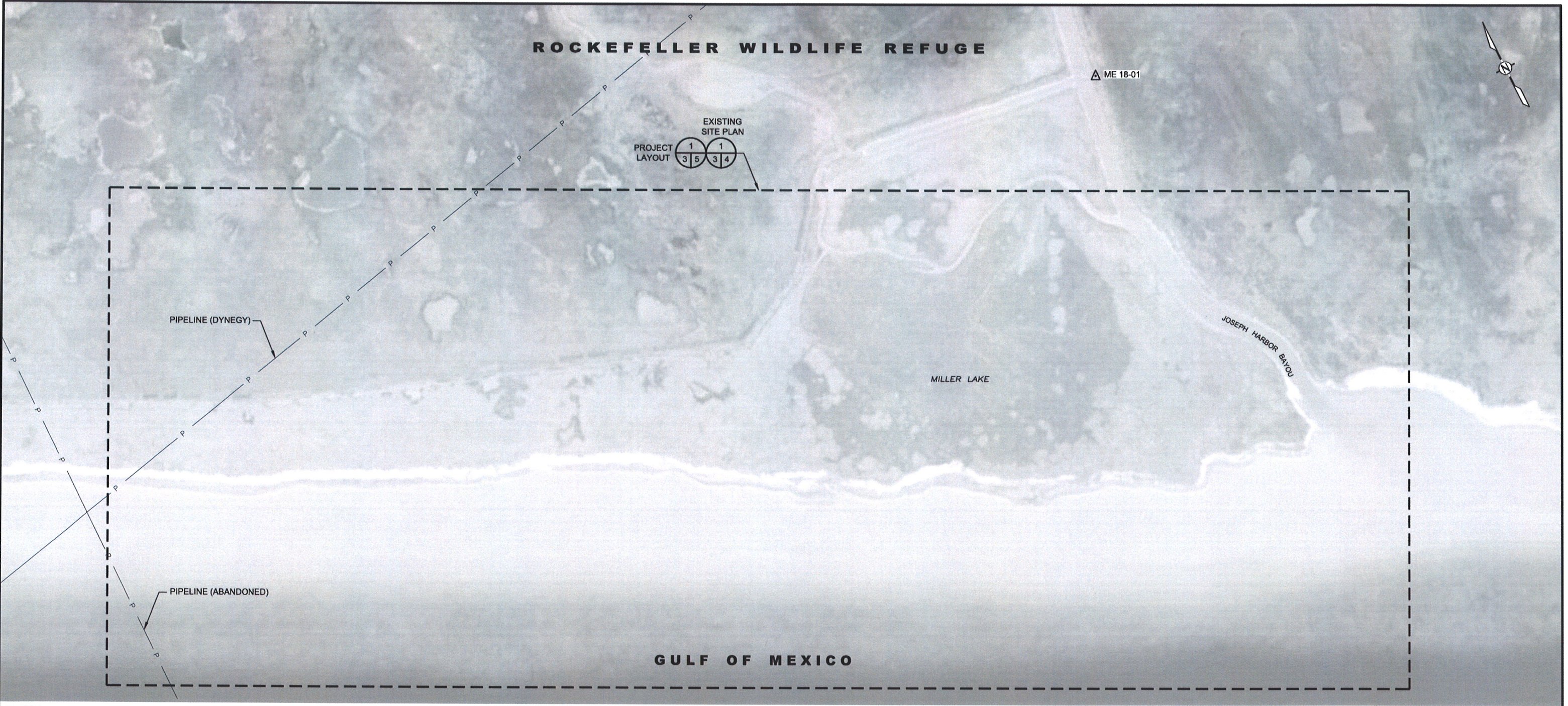
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HDR ENGINEERING, INC.			
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REV.	DATE	DESCRIPTION	BY



COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		GENERAL NOTES
		STATE PROJECT NUMBER: ME-18		
		DRAWN BY: E. CONTRERAS		FEDERAL PROJECT NUMBER: ME-18
DESIGNED BY: ERIN ROONEY, P.E.		APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 2 OF 23





- NOTES:
1. AERIAL IMAGE ON THIS SHEET WAS OBTAINED FROM BING MAPS AERIAL IMAGING WEB MAPPING SERVICE VIA ESRI'S ARC GIS SOFTWARE (VERSION 9.3.1) AND GLOBEXPLORER IMAGECONNECT EXTENSION (VERSION 3.1.0) DATED DECEMBER 12, 2013. AERIAL IMAGES SHOWN ON SHEETS 4 THRU 10 WERE OBTAINED FROM TOBY ARMSTRONG PHOTOGRAPHY, DATED DECEMBER 30, 2013.
  2. CONDITION AND ACCURACY OF SURVEY CONTROL MONUMENTS ARE NOT GUARANTEED. CONTRACTOR SHALL VERIFY ACCURACY OF SURVEY CONTROL MONUMENTS PRIOR TO CONSTRUCTION. IMMEDIATELY REPORT ANY DISCREPANCIES TO ENGINEER.
  3. SEE SPECIFICATION TS-5 "CONSTRUCTION SURVEYING" FOR SURVEYING REQUIREMENTS INCLUDING REQUIREMENTS FOR STAGED INITIAL SURVEYS.
  4. LOCATION OF PIPELINE SHOWN IN THESE PLANS IS APPROXIMATE. REFER TO GENERAL NOTE 2 ON SHEET 2.



SURVEY CONTROL MONUMENTS			
ID	NORTHING	EASTING	ELEVATION
ME18-01	420,724.78	2,824,955.19	6.44'

- LEGEND:
- SURVEY CONTROL MONUMENT
- EXISTING PIPELINE

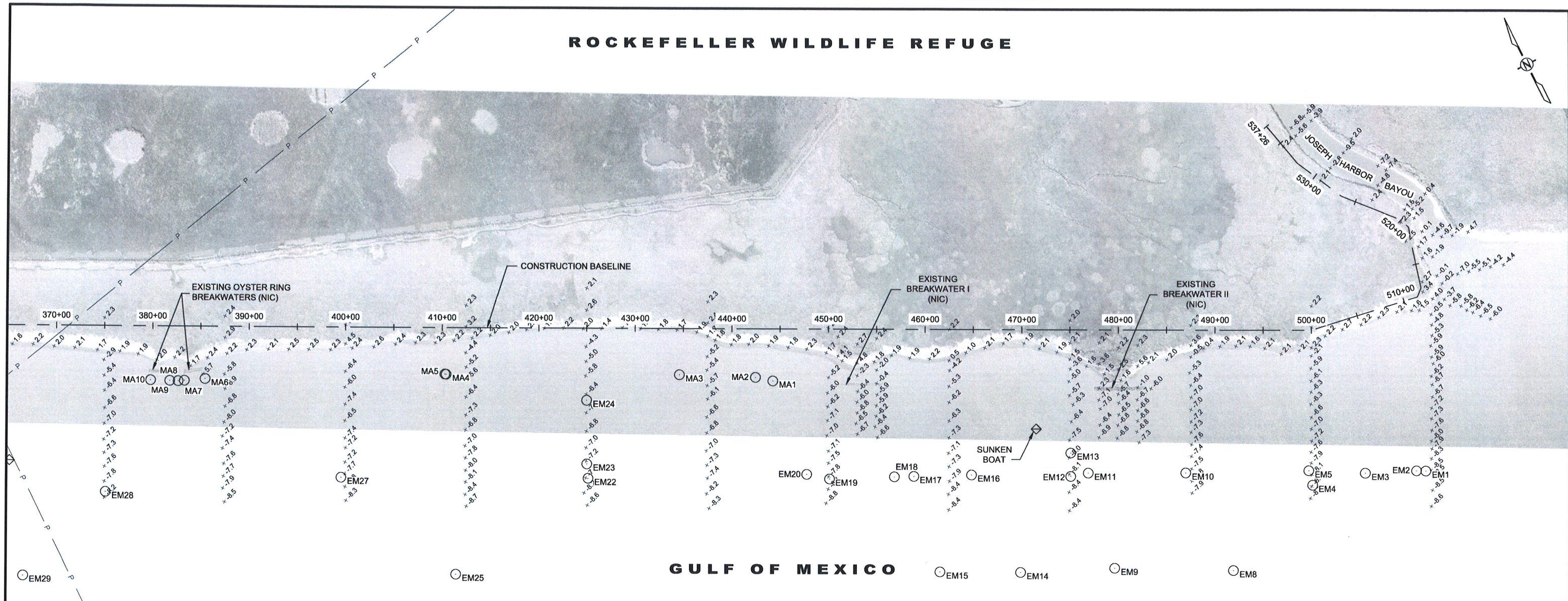
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COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		SURVEY CONTROL PLAN
		STATE PROJECT NUMBER: ME-18		
				FEDERAL PROJECT NUMBER: ME-18
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.	APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 3 OF 23



ROCKEFELLER WILDLIFE REFUGE



NOTES:

1. ELEVATIONS AND LOCATIONS OF MAGNETIC ANOMALIES AND OTHER EXISTING FEATURES WERE PROVIDED BY JOHN CHANCE LAND SURVEYORS, INC. BASED ON FIELD WORK CONDUCTED ON SEPTEMBER 25, 2013 - SEPTEMBER 28, 2013 AND BY FUGRO GEOSERVICES, INC. BASED ON FIELD WORK CONDUCTED ON JULY 3 - 4, 2002. APPENDIX J INCLUDES A LIST OF THESE MAGNETIC ANOMALIES FOR INFORMATIONAL PURPOSES ONLY. OTHER UNIDENTIFIED ANOMALIES AND OBSTRUCTIONS MAY EXIST. CONTRACTOR SHALL PERFORM A HAZARD SURVEY AND LOCATE ALL UTILITIES AND OBSTRUCTIONS PRIOR TO COMMENCING WORK.
2. PROJECT IS WITHIN AND ADJACENT TO ENVIROMENTALLY-SENSITIVE AREAS. FOR ALL AREAS OUTSIDE THE DIRECT FOOTPRINT OF SPECIFIED IMPROVEMENTS, CONTRACTOR SHALL AVOID/MINIMIZE IMPACTS TO EXISTING VEGETATION. THE OWNER RESERVES THE RIGHT TO SUSPEND WORK AT ANY TIME IF IMPACTS OCCUR UNTIL SATISFACTORY CORRECTIVE MEASURES ARE IMPLEMENTED BY THE CONTRACTOR.
3. PROJECT IS IN THE VICINITY OF PIPELINES. CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE PIPELINE OWNERS LISTED BELOW PRIOR TO COMMENCING CONSTRUCTION.

DYNEGY (TARGA RESOURCES, INC.)  
CONTACT: DARRELL REDD  
PHONE: 713-574-1000

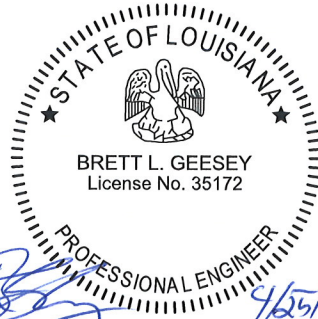
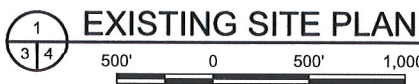
LEGEND:

- EXISTING MAGNETOMETOR ANOMALY
- ◇ HAZARD
- ⊕ APPROXIMATE LOCATION OF SOIL BORING/PROBE
- +2.1 SPOT ELEVATION (FT.)
- 470+00 480+00 CONSTRUCTION BASELINE
- P — EXISTING PIPELINE



HDR ENGINEERING, INC.

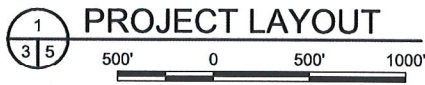
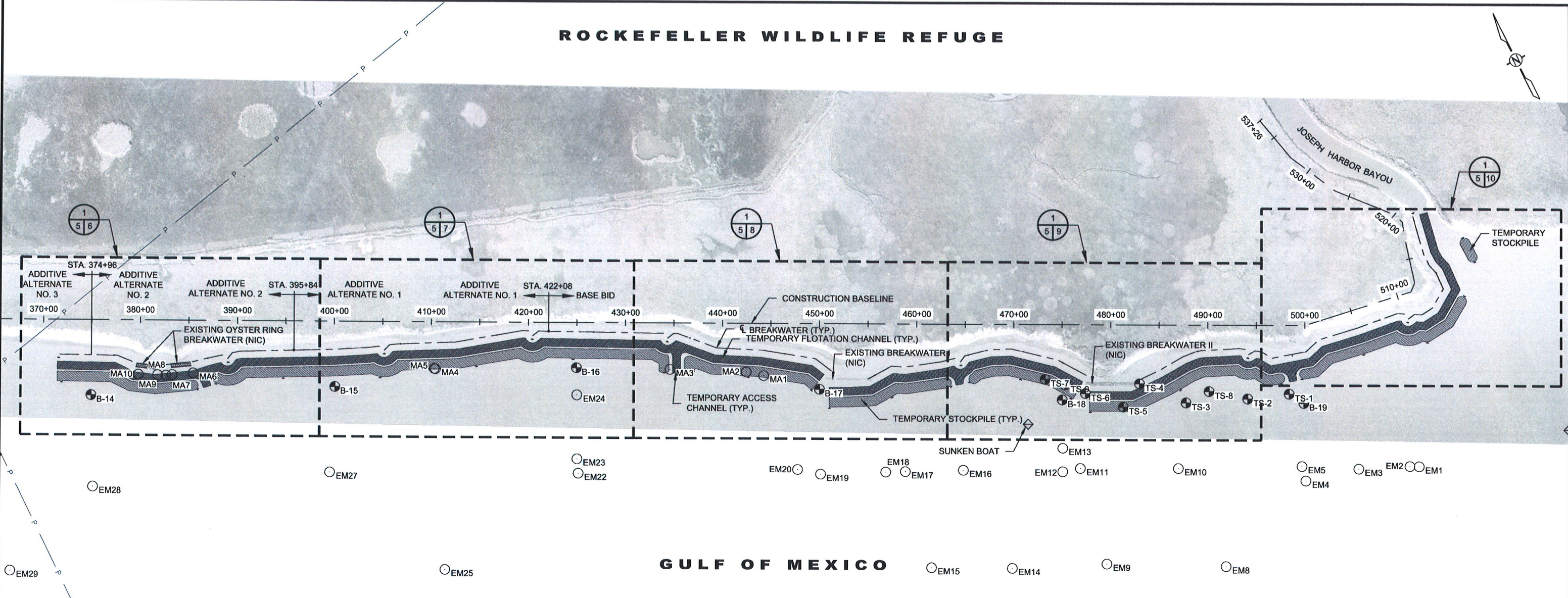
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COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		EXISTING SITE PLAN	
		STATE PROJECT NUMBER: ME-18			
				FEDERAL PROJECT NUMBER: ME-18	DATE: APRIL 2017
DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.		APPROVED BY: BRETT L. GEESEY, P.E.	SHEET 4 OF 23




ROCKEFELLER WILDLIFE REFUGE



CONSTRUCTION BASELINE COORDINATES		
STATION	NORTHING	EASTING
370+00	421,776	2,812,296
500+00	415,933	2,823,908
511+46	415,754	2,825,040
512+47	415,819	2,825,118
517+21	416,278	2,825,233
518+92	416,442	2,825,286
520+22	416,561	2,825,235
526+56	417,034	2,824,814
532+24	417,543	2,824,559

LEGEND:

- EXISTING MAGNETOMETER ANOMALY
- SETTLEMENT PLATE
- HAZARD
- APPROXIMATE LOCATION OF SOIL BORING/PROBE
- LIGHTED DAYBEACON
- TEMPORARY WARNING SIGNS
- TEMPORARY ACCESS/FLOTATION CHANNEL
- TEMPORARY STOCKPILE
- CONSTRUCTION BASELINE
- EXISTING PIPELINE



HDR ENGINEERING, INC.

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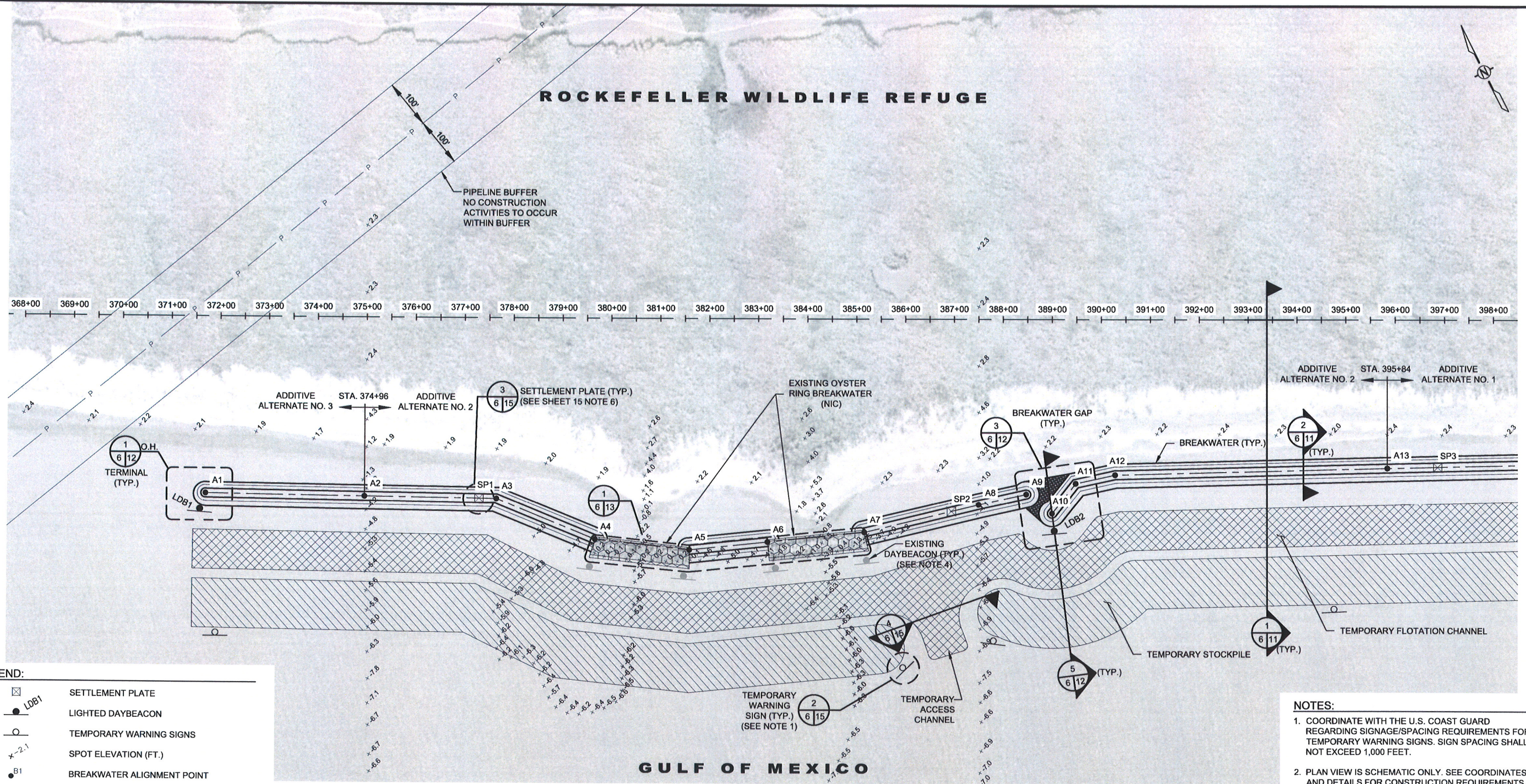
BRETT L. GEESEY  
License No. 35172  
PROFESSIONAL ENGINEER

COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		PROJECT LAYOUT	
DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.			
APPROVED BY: BRETT L. GEESEY, P.E.		DATE: APRIL 2017			
				SHEET 5 OF 23	

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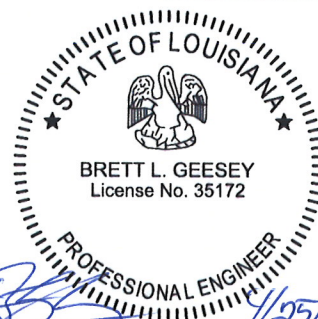
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#### LEGEND:

- SETTLEMENT PLATE
- LIGHTED DAYBEACON
- TEMPORARY WARNING SIGNS
- SPOT ELEVATION (FT.)
- BREAKWATER ALIGNMENT POINT
- BREAKWATER FOOTPRINT
- GRR BEDDING STONE
- TEMPORARY ACCESS/FLOTATION CHANNEL
- TEMPORARY STOCKPILE
- EXISTING OYSTER RING BREAKWATER (NIC)
- CONSTRUCTION BASELINE
- EXISTING PIPELINE

1  
5 6 ENLARGED PARTIAL PLAN I  
100' 0 100' 200'



#### COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

#### ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

APPROVED BY: BRETT L. GEESEY, P.E.

#### ENLARGED PARTIAL PLAN I

DATE: APRIL 2017

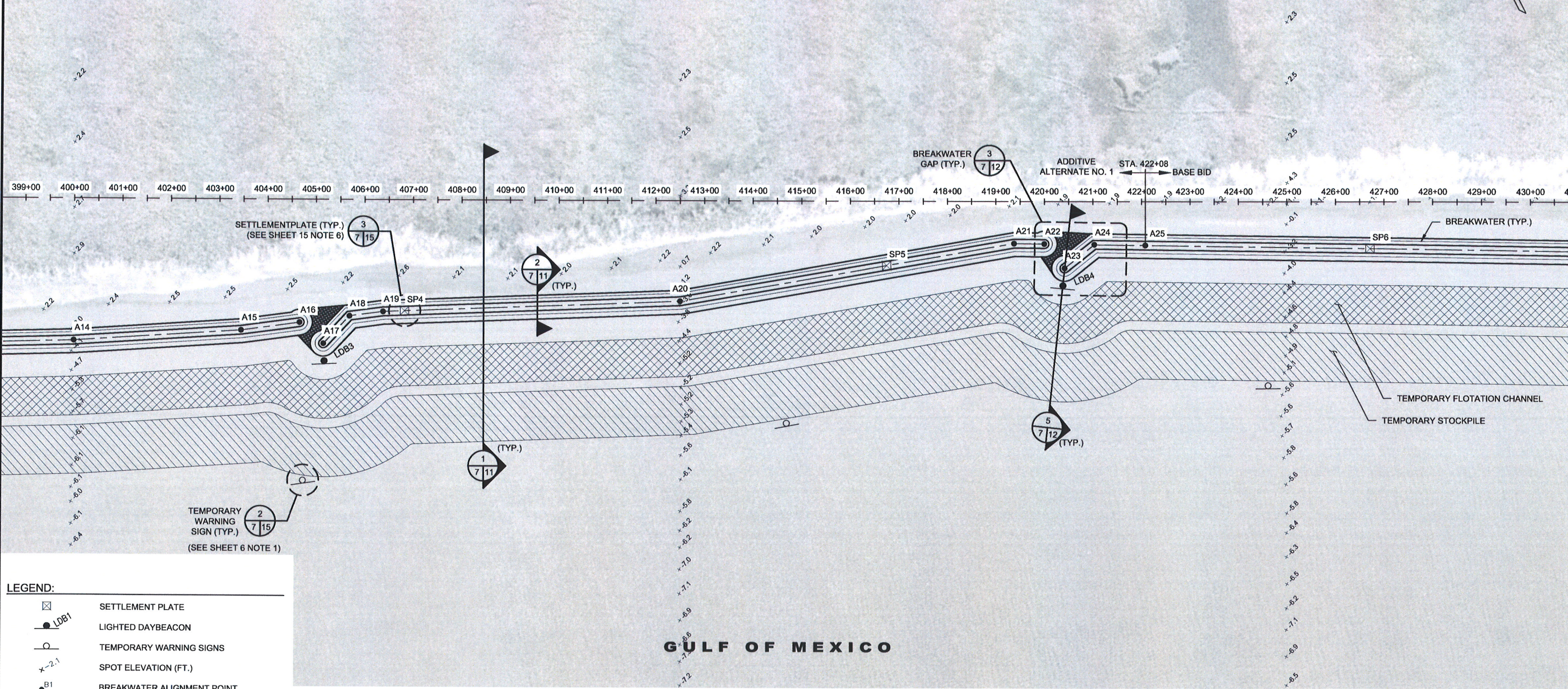
SHEET 6 OF 23

#### NOTES:

- COORDINATE WITH THE U.S. COAST GUARD REGARDING SIGNAGE/SPACING REQUIREMENTS FOR TEMPORARY WARNING SIGNS. SIGN SPACING SHALL NOT EXCEED 1,000 FEET.
- PLAN VIEW IS SCHEMATIC ONLY. SEE COORDINATES AND DETAILS FOR CONSTRUCTION REQUIREMENTS.
- ALIGNMENT SHALL TRANSITION SMOOTHLY BETWEEN ALIGNMENT POINTS WITH NO ABRUPT TRANSITIONS.
- TEMPORARY FLotation CHANNEL (TOP OF CUT) SHALL BE CONSTRUCTED A MINIMUM OF 10 FEET FROM EXISTING DAYBEACONS.



ROCKEFELLER WILDLIFE REFUGE

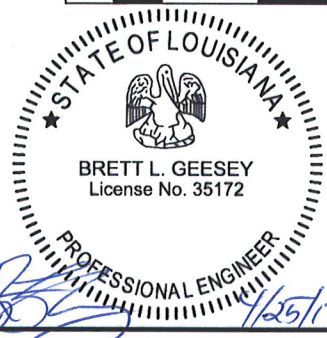


**LEGEND:**

- SETTLEMENT PLATE
- LIGHTED DAYBEACON
- TEMPORARY WARNING SIGNS
- SPOT ELEVATION (FT.)
- BREAKWATER ALIGNMENT POINT
- BREAKWATER FOOTPRINT
- GRR BEDDING STONE
- TEMPORARY ACCESS/FLOTATION CHANNEL
- TEMPORARY STOCKPILE
- CONSTRUCTION BASELINE

GULF OF MEXICO

ENLARGED PARTIAL PLAN II

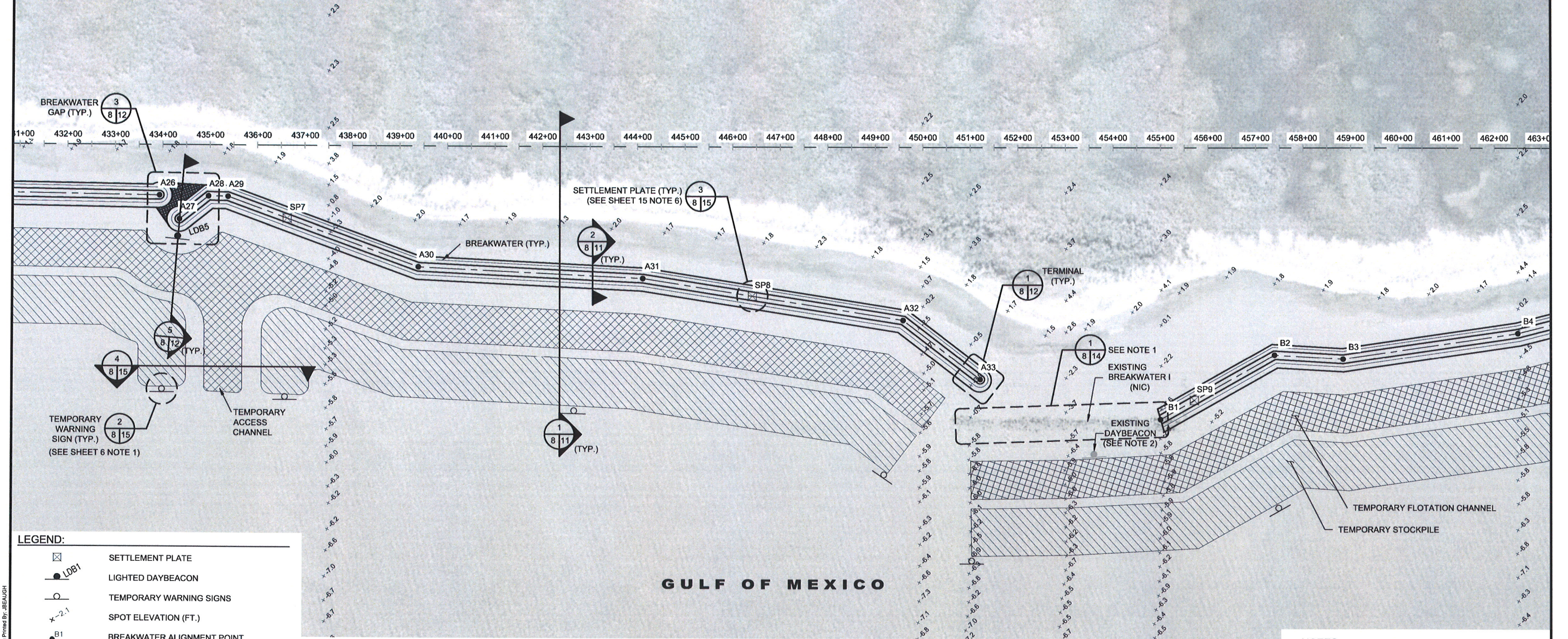


COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		ENLARGED PARTIAL PLAN II
		STATE PROJECT NUMBER: ME-18		
		FEDERAL PROJECT NUMBER: ME-18		DATE: APRIL 2017
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.	APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 7 OF 23

Date: Apr 25, 2017 Time: 3:15pm File Name: C:\working\040501311000-04.DWG Printed By: JBEAUGH



ROCKEFELLER WILDLIFE REFUGE



LEGEND:

- SETTLEMENT PLATE
- LIGHTED DAYBEACON
- TEMPORARY WARNING SIGNS
- SPOT ELEVATION (FT.)
- BREAKWATER ALIGNMENT POINT
- BREAKWATER FOOTPRINT
- GRR BEDDING STONE
- TEMPORARY ACCESS/FLOTATION CHANNEL
- TEMPORARY STOCKPILE
- CONSTRUCTION BASELINE

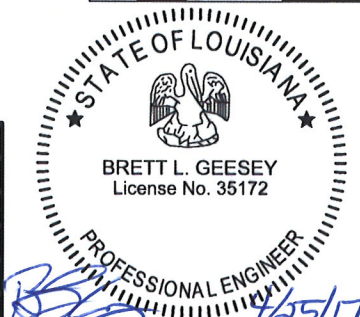
ENLARGED PARTIAL PLAN III

- NOTES:
- CONTRACTOR SHALL CONSTRUCT BREAKWATER UP TO EXISTING BREAKWATER I. SEE DETAILS ON SHEET 14 FOR TYING INTO EXISTING STRUCTURE.
  - TEMPORARY FLOTATION CHANNEL (TOP OF CUT) SHALL BE CONSTRUCTED A MINIMUM OF 10 FEET FROM EXISTING DAYBEACON.

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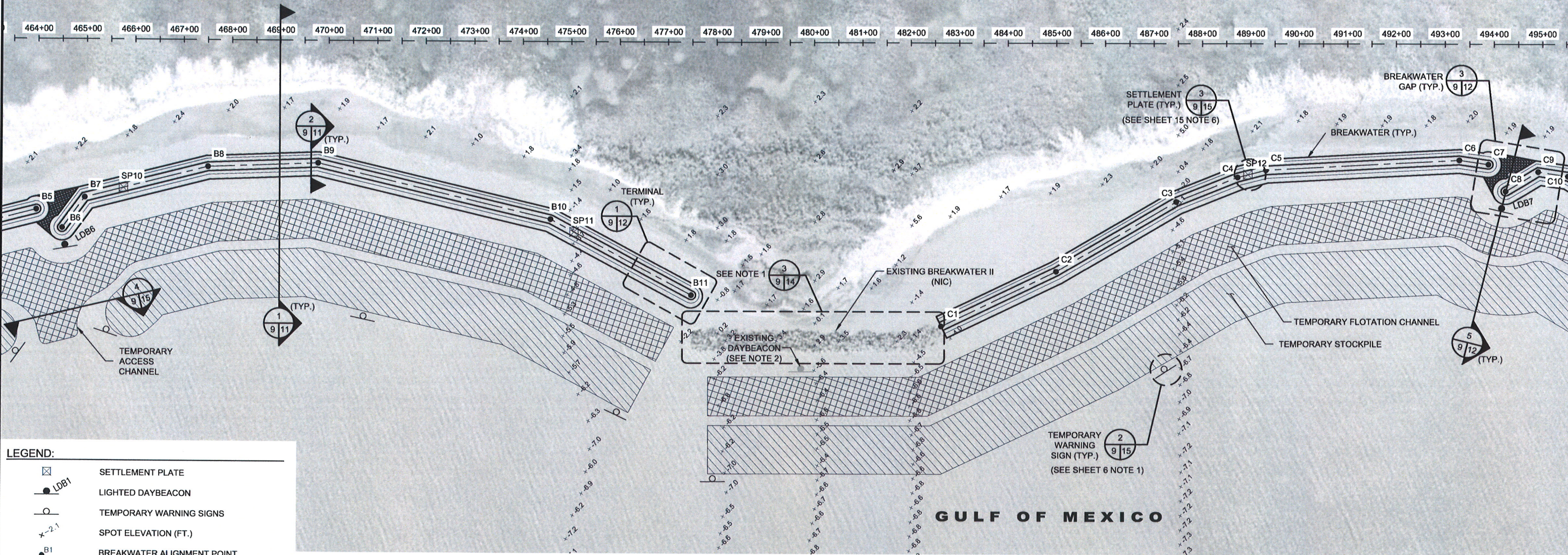
COASTAL PROTECTION & RESTORATION AUTHORITY  
ENGINEERING DIVISION  
150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802  
DRAWN BY: E. CONTRERAS  
DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF  
SHORELINE STABILIZATION PROJECT  
STATE PROJECT NUMBER: ME-18  
FEDERAL PROJECT NUMBER: ME-18  
APPROVED BY: BRETT L. GEESEY, P.E.

ENLARGED PARTIAL  
PLAN III  
DATE: APRIL 2017  
SHEET 8 OF 23



ROCKEFELLER WILDLIFE REFUGE



**LEGEND:**

- LDB1 SETTLEMENT PLATE
- LIGHTED DAYBEACON
- TEMPORARY WARNING SIGNS
- +2.1 SPOT ELEVATION (FT.)
- B1 BREAKWATER ALIGNMENT POINT
- ▨ BREAKWATER FOOTPRINT
- GRR BEDDING STONE
- ▤ TEMPORARY ACCESS/FLOTATION CHANNEL
- ▥ TEMPORARY STOCKPILE
- +—+—+— CONSTRUCTION BASELINE

470+00 480+00



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COASTAL PROTECTION & RESTORATION AUTHORITY  
**ENGINEERING DIVISION**  
150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS    DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		ENLARGED PARTIAL PLAN IV
STATE PROJECT NUMBER: ME-18		
FEDERAL PROJECT NUMBER: ME-18		DATE: APRIL 2017
APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 9 OF 23

- NOTES:**
- CONTRACTOR SHALL CONSTRUCT BREAKWATER UP TO EXISTING BREAKWATER II. SEE DETAILS ON SHEET 14 FOR TYING INTO EXISTING STRUCTURE.
  - TEMPORARY FLOTATION CHANNEL (TOP OF CUT) SHALL BE CONSTRUCTED A MINIMUM OF 10 FEET FROM EXISTING DAYBEACON.

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# ROCKEFELLER WILDLIFE REFUGE

## JOSEPH HARBOR BAYOU

### NOTES:

1. MATERIAL DREDGED FOR FLOTATION CHANNEL BETWEEN APPROXIMATE STATIONS 512+00 AND 520+00 MAY BE PLACED ON OPPOSITE SIDE OF JOSEPH HARBOR BAYOU CHANNEL. TEMPORARY STOCKPILE SHOWN. AT NO TIME SHALL MATERIAL BE PLACED IN CHANNEL. DOUBLE HANDLING OF MATERIAL MAY BE REQUIRED.

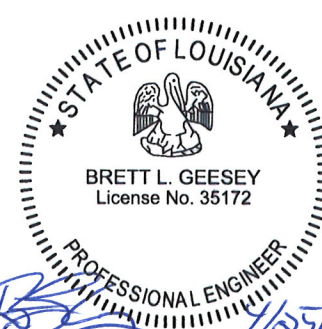
### LEGEND:

	SETTLEMENT PLATE
	LIGHTED DAYBEACON
	TEMPORARY WARNING SIGNS
	SPOT ELEVATION (FT.)
	BREAKWATER ALIGNMENT POINT
	BREAKWATER FOOTPRINT
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE
	CONSTRUCTION BASELINE

## GULF OF MEXICO

### ENLARGED PARTIAL PLAN V

100' 0 100' 200'



### COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

### ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

APPROVED BY: BRETT L. GEESEY, P.E.

### ENLARGED PARTIAL PLAN V

DATE: APRIL 2017

SHEET 10 OF 23

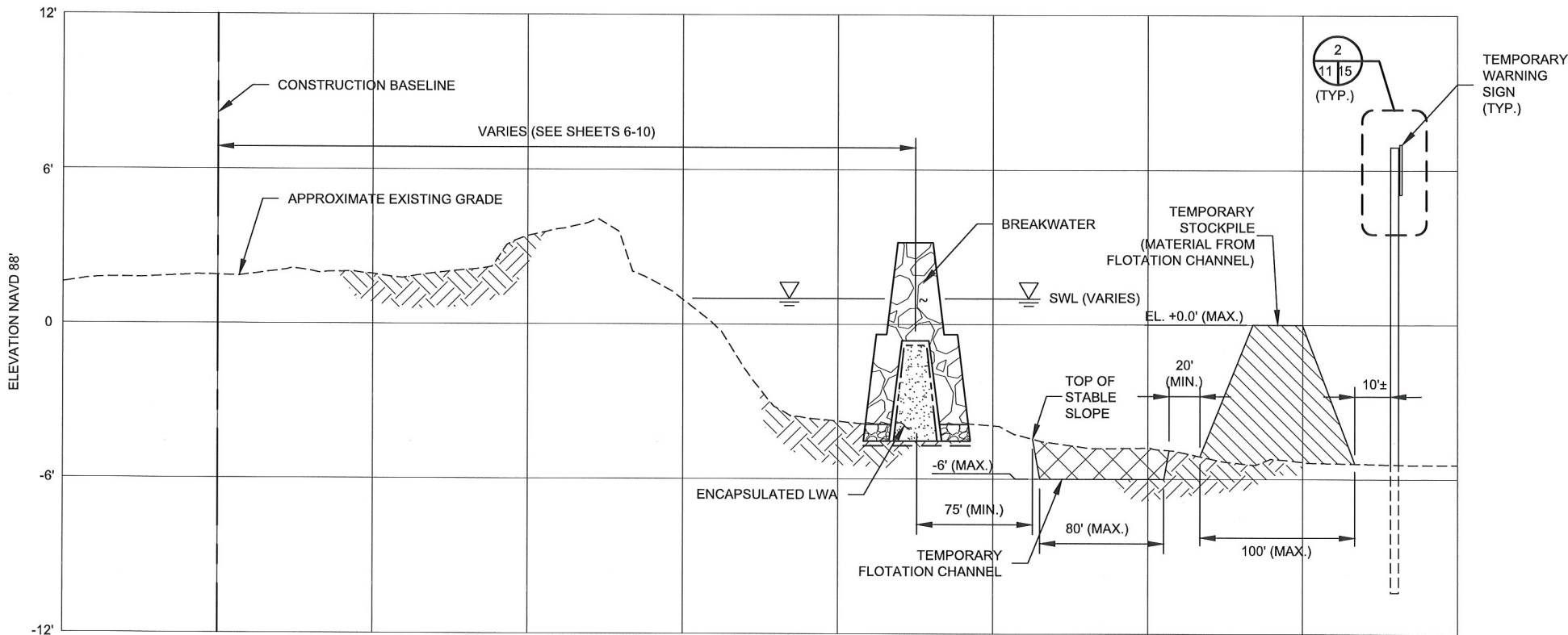


HDR ENGINEERING, INC.

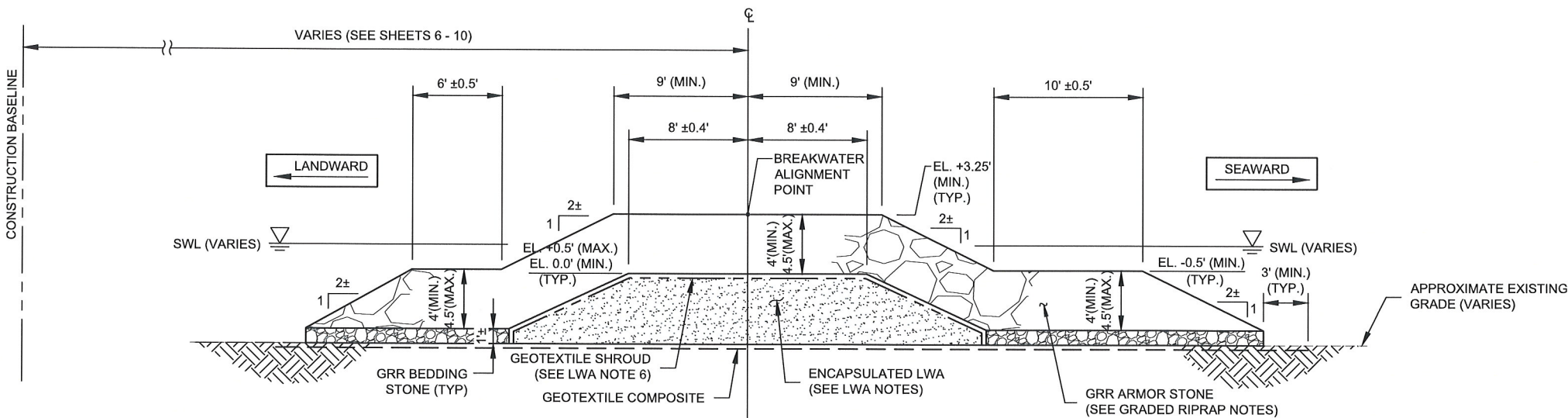
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1  
6 11  
7-10  
TYPICAL SECTION - BREAKWATER  
SCALE: N.T.S.



2  
6 11  
7-10, 12, 13, 14  
TYPICAL SECTION - BREAKWATER  
SCALE: N.T.S.

- LEGEND:
- GEOTEXTILE COMPOSITE
  - GEOTEXTILE SHROUD
  - GRR ARMOR STONE
  - ENCAPSULATED LWA
  - GRR BEDDING STONE
  - TEMPORARY ACCESS/FLOTATION CHANNEL
  - TEMPORARY STOCKPILE

<b>HDR</b>		HDR ENGINEERING, INC.	
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COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802	
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT	SECTIONS AND DETAILS I
STATE PROJECT NUMBER: ME-18	
FEDERAL PROJECT NUMBER: ME-18	DATE: APRIL 2017
APPROVED BY: BRETT L. GEESEY, P.E.	SHEET 11 OF 23

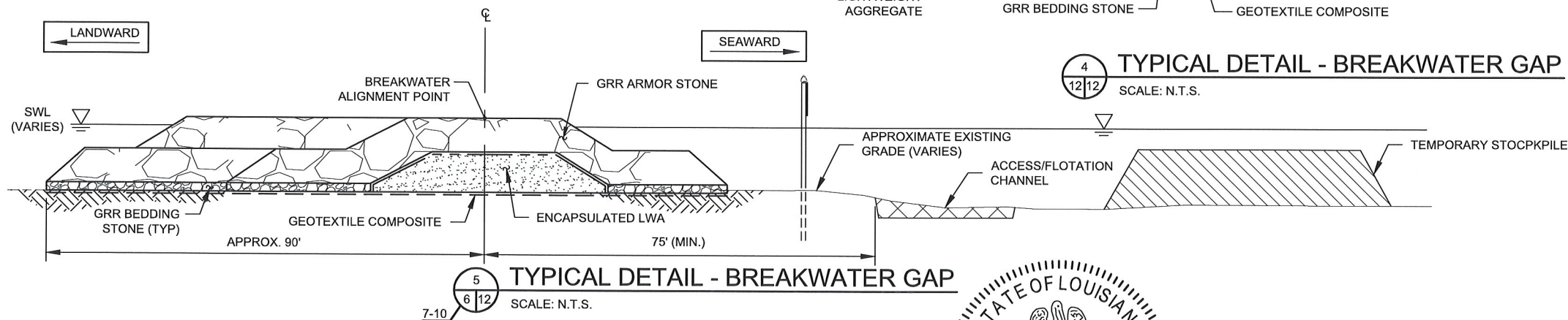
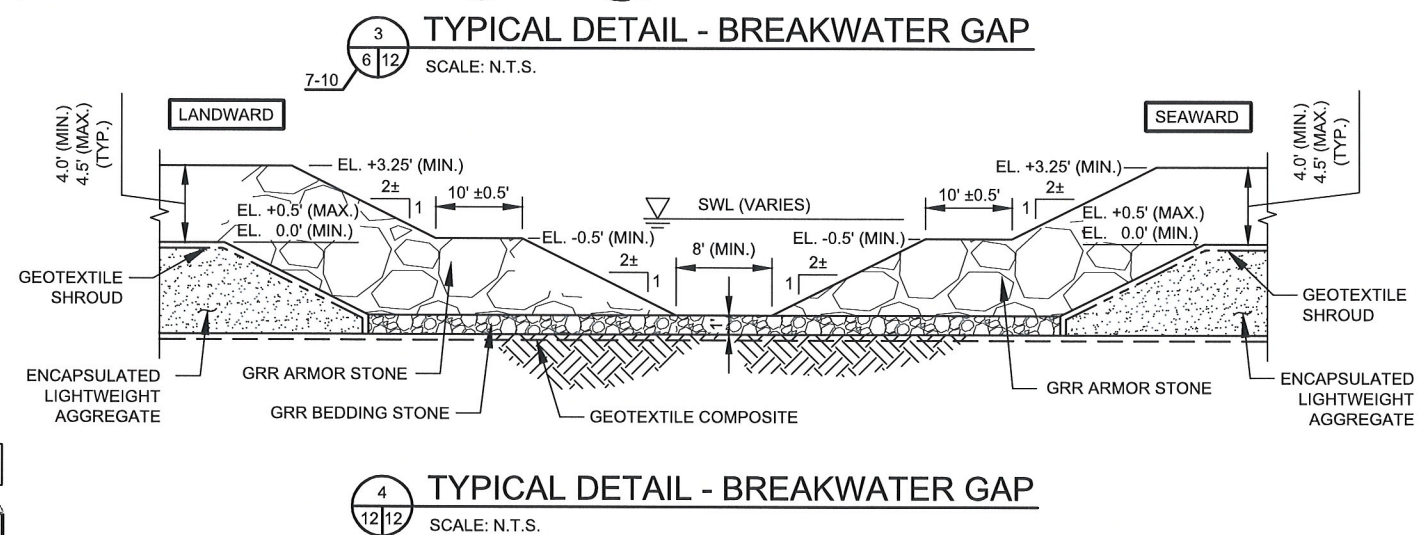
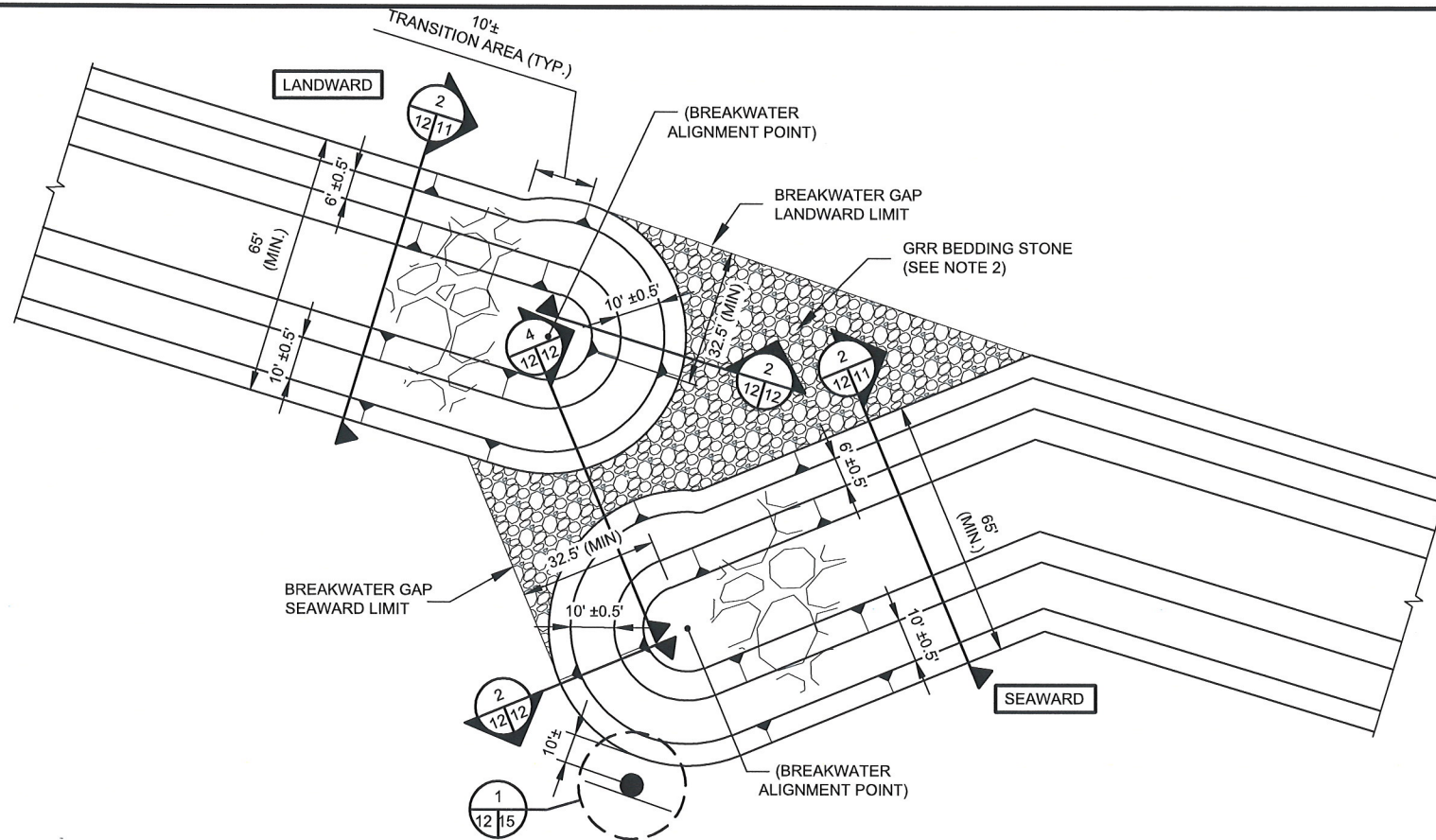
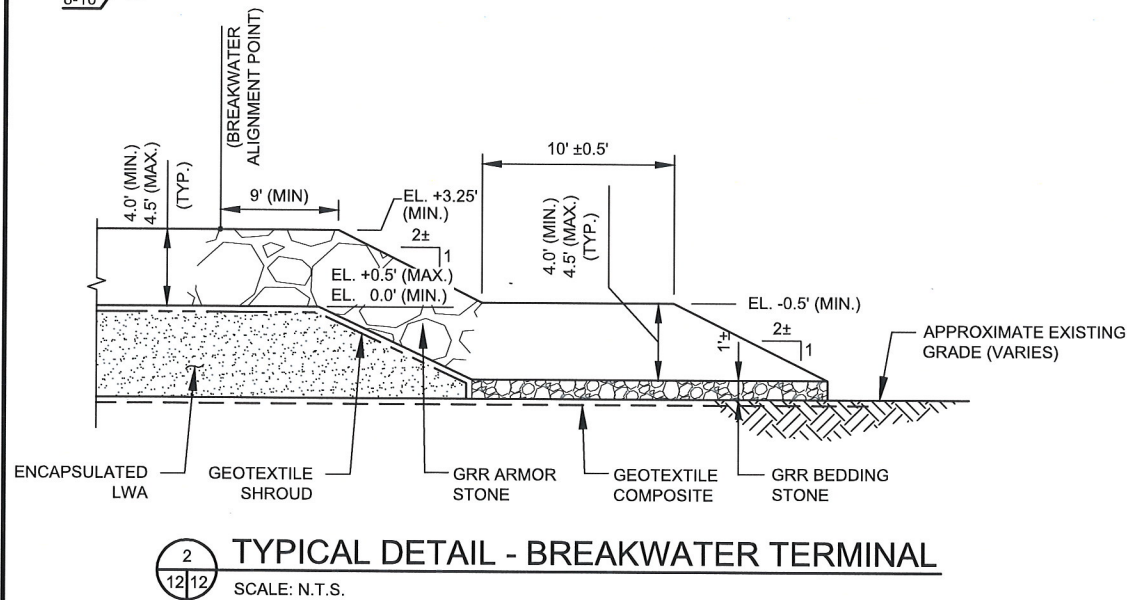
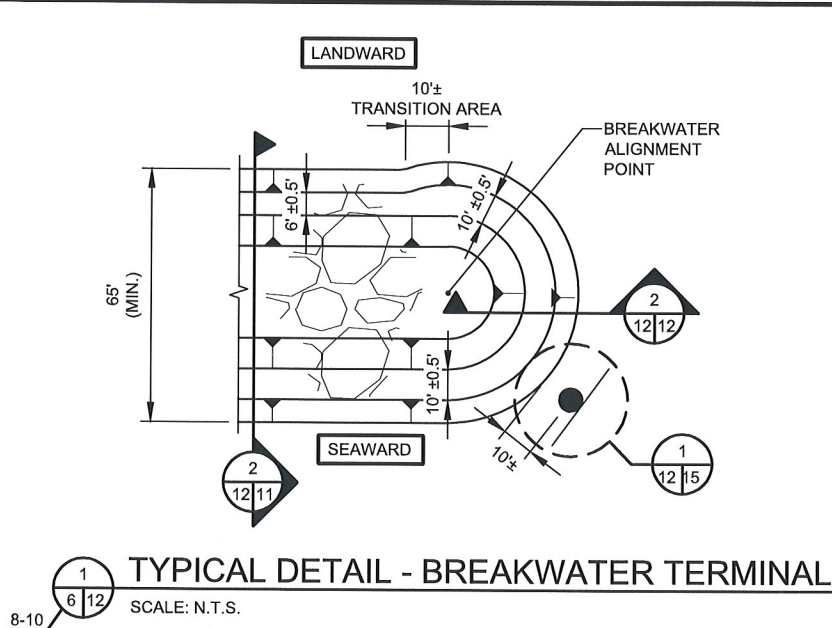
GRADED RIPRAP NOTES:

- GRADED RIPRAP PLACEMENT SHALL MAXIMIZE CONTACT BETWEEN INDIVIDUAL STONES ON ALL SIDES WITH EACH STONE HAVING AT LEAST THREE POINTS OF CONTACT WITH OTHER STONES.
- EXISTING BOTTOM CONSISTS OF SOFT SOILS. SOIL DISPLACEMENT MAY OCCUR UPON PLACEMENT OF GRADED RIPRAP. CONTRACTOR SHALL UTILIZE DROP HEIGHTS OF NO GREATER THAN ONE FOOT AND EMPLOY OTHER PLACEMENT TECHNIQUES TO HELP MINIMIZE SOIL DISPLACEMENT AND DAMAGE TO UNDERLYING GEOTEXTILES (SEE NOTE 4 ON SHEET 2). UNDERLYING GEOTEXTILES SHALL EXTEND A MINIMUM OF 3 FT BEYOND EDGE OF GRR PRIOR TO SETTLEMENT. CONTRACTOR SHALL CONSIDER OTHER METHODS OF MINIMIZING SOIL DISPLACEMENT SUCH AS TACKING THE EDGES OF THE GEOTEXTILE FABRIC AND GEOGRID WITH GRR PRIOR TO LOADING CENTRAL PORTIONS.
- CONTRACTOR'S WORK PLAN SHALL INCLUDE QA/QC METHODS/PROCEDURES TO ENSURE THICKNESS OF THE ARMOR STONE IS PLACED WITHIN THE SPECIFIED LIMITS. IF REQUESTED BY ENGINEER, CONTRACTOR SHALL FIELD DEMONSTRATE THE PROPOSED METHODS/PROCEDURES.
- ELEVATIONS SHOWN ON TYPICAL SECTIONS AND DETAILS ACCOUNT FOR INSTANTANEOUS CONSTRUCTION SETTLEMENTS THAT MAY OCCUR. BREAKWATER SUBGRADE SHALL NOT BE EXCAVATED.

LIGHTWEIGHT AGGREGATE (LWA) NOTES:

- LIGHTWEIGHT AGGREGATE SHALL BE ENCAPSULATED WITHIN CONTAINERS OR BAGS FABRICATED FROM TYPE 2 GEOTEXTILE FABRIC OR OTHER ENGINEER-APPROVED METHOD PRIOR TO PLACEMENT. REFER TO SPECIFICATION SECTION TS-8, "GEOTEXTILES" AND SECTION TS-10, "LIGHTWEIGHT AGGREGATE."
- ON SHEETS 17-22, ENCAPSULATED LWA IS SHOWN SCHEMATICALLY AND NOT TO SCALE. ACTUAL GEOMETRY AND CONFIGURATION OF CONTAINERS/BAGS MAY VARY AS REQUIRED TO PROVIDE OVERALL DIMENSIONS SHOWN. SIZE OF BAGS/CONTAINERS SHALL BE LIMITED TO A FILLED VOLUME OF 5 CY (MAX.).
- ENCAPSULATED LWA CORE SHALL BE CONSTRUCTED SUCH THAT THE INITIAL CREST ELEVATION (PRIOR TO PLACEMENT OF ARMOR STONE) ENSURES FINISHED ELEVATION AND THICKNESS REQUIREMENTS OF ARMOR STONE ARE ACHIEVED. INITIAL CREST ELEVATION OF ENCAPSULATED LWA SHALL BE VARIED ACCORDINGLY AS NEEDED TO ACCOMMODATE FOUNDATION SOILS AND ASSOCIATED CONSTRUCTION SETTLEMENTS. IF ISOLATED AREAS OF EXCESSIVELY SOFT SOIL ARE ENCOUNTERED, CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PLACEMENT OF ENCAPSULATED LWA.
- CONTRACTOR SHALL SUBMIT A LWA CORE CONSTRUCTION PLAN WITH CONTRACTOR'S WORK PLAN FOR REVIEW BY ENGINEER. LWAC CONSTRUCTION PLAN SHALL INCLUDE: SIZE/DIMENSIONS OF INDIVIDUAL ENCAPSULATED LWA BAG/CONTAINER, TYPICAL CONFIGURATION OF ENCAPSULATED LWA BAG(S), FILLING PROCEDURES, AND CONSTRUCTION PLACEMENT TECHNIQUE (INCLUDING LIFTING METHOD). LWA CORE CONSTRUCTION PLAN SHOULD DEMONSTRATE CONTRACTOR'S ABILITY TO CONSTRUCT THE STRUCTURE WITH LWA TO SATISFY ALL DIMENSIONS SHOWN IN DRAWINGS.
- DAMAGED, TORN, OR OTHERWISE WEAKENED ENCAPSULATED LWA BAGS SHALL NOT BE USED FOR CONSTRUCTION.
- GEOTEXTILE SHROUD SHALL COVER TOP OF LWA CORE AS SHOWN USING EITHER TYPE I OR TYPE II GEOTEXTILE FABRIC AS SPECIFIED IN SPECIFICATION TS-8 GEOTEXTILES. CONTRACTOR'S WORK PLAN SHALL PROVIDE METHOD FOR PLACING GEOTEXTILE SHROUD, INCLUDING AROUND SETTLEMENT PLATE.





- NOTES:**
1. LIGHTED DAYBEACONS SHALL BE INSTALLED APPROXIMATELY 10 FEET FROM TOE OF BREAKWATER AS SHOWN ON THIS SHEET. CONTRACTOR SHALL STAKE LOCATIONS OF DAYBEACONS FOR APPROVAL BY OWNER PRIOR TO INSTALLATION.
  2. GRR BEDDING STONE SHALL BE PLACED WITHIN LIMITS OF BREAKWATER GAP EXTENDING TO THE TOES OF EACH BREAKWATER SEGMENT. FOR FURTHER CLARIFICATION, THE LANDWARD LIMIT IS PARALLEL TO THE CENTERLINE OF WESTERN BREAKWATER SEGMENT. THE SEAWARD LIMIT IS PERPENDICULAR TO THE CENTERLINE OF THE EASTERN BREAKWATER SEGMENT.
  3. BREAKWATER TERMINATION, INCLUDING LIGHTED DAYBEACON, SHALL BE CONSTRUCTED AT WESTERNMOST ALIGNMENT POINT.

- LEGEND:**
- GEOTEXTILE COMPOSITE
  - GEOTEXTILE SHROUD
  - LDB 1 LIGHTED DAYBEACON
  - B1 BREAKWATER ALIGNMENT POINT
  - BREAKWATER FOOTPRINT
  - GRR ARMOR STONE
  - ENCAPSULATED LWA
  - GRR BEDDING STONE



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**COASTAL PROTECTION & RESTORATION AUTHORITY  
ENGINEERING DIVISION**

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

**ROCKEFELLER REFUGE GULF  
SHORELINE STABILIZATION PROJECT**

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

APPROVED BY: BRETT L. GEESY, P.E.

**SECTIONS AND DETAILS II**

DATE: APRIL 2017

SHEET 12 OF 23



1. SEAWARD TOE OF BREAKWATER SHALL BE APPROXIMATELY IN LINE WITH SEAWARD TOE OF EXISTING OYSTER RING BREAKWATERS.
2. IN AREAS WHERE BREAKWATER IS DESIGNED AT A HIGHER ELEVATION THAN THE EXISTING OYSTER RING BREAKWATER, BREAKWATER WILL SLOPE DOWN AT A GRADE OF APPROXIMATELY 2H:1V TO MEET GRADE OF EXISTING OYSTER RING BREAKWATER.
3. CONTRACTOR SHALL MINIMIZE DISTURBANCE OF EXISTING OYSTER RING BREAKWATERS.



	GEOTEXTILE COMPOSITE
	GEOTEXTILE SHROUD
	BREAKWATER FOOTPRINT
	GRR ARMOR STONE
	ENCAPSULATED LWA
	EXISTING OYSTER RING BREAKWATER



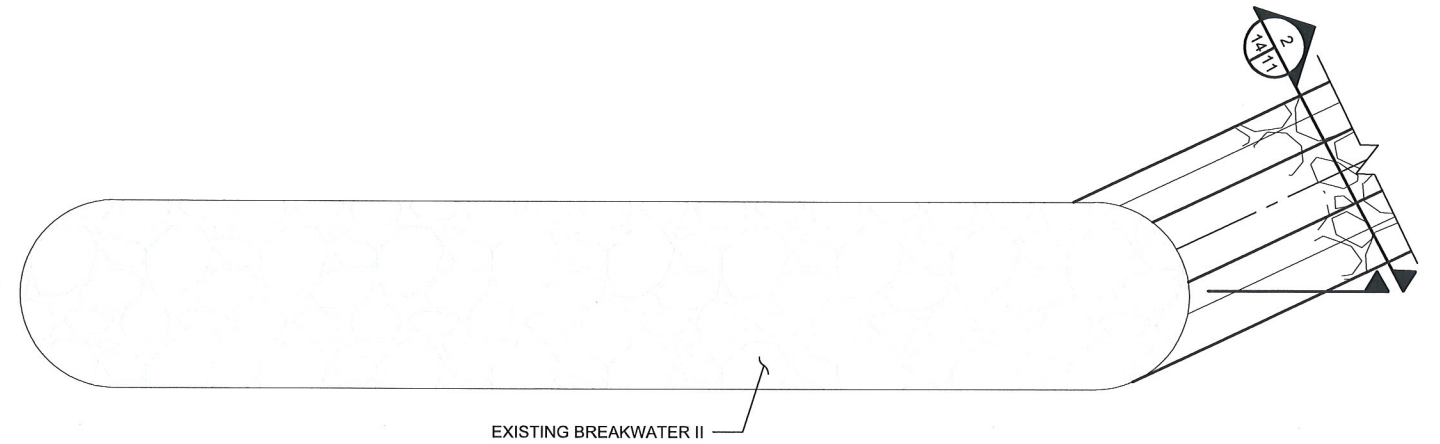
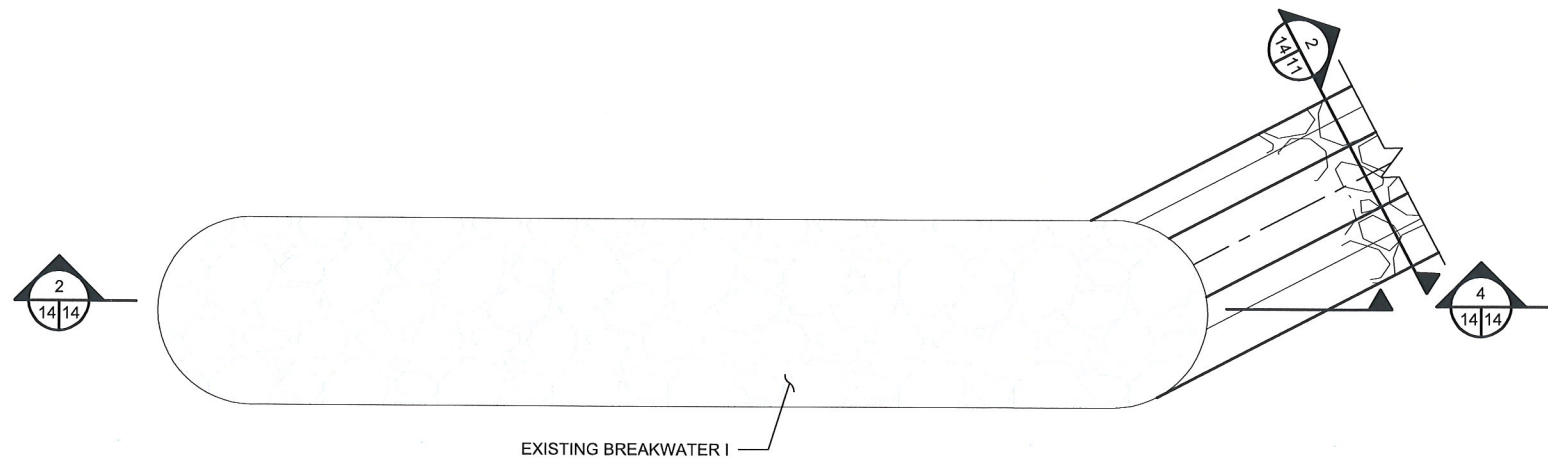
150 TERRACE AVENUE  
TON ROUGE, LOUISIANA 70802

DESIGNED BY: ERIN ROONEY, P.E.

APPROVED BY: BRETT L. GEESEY, P.E.

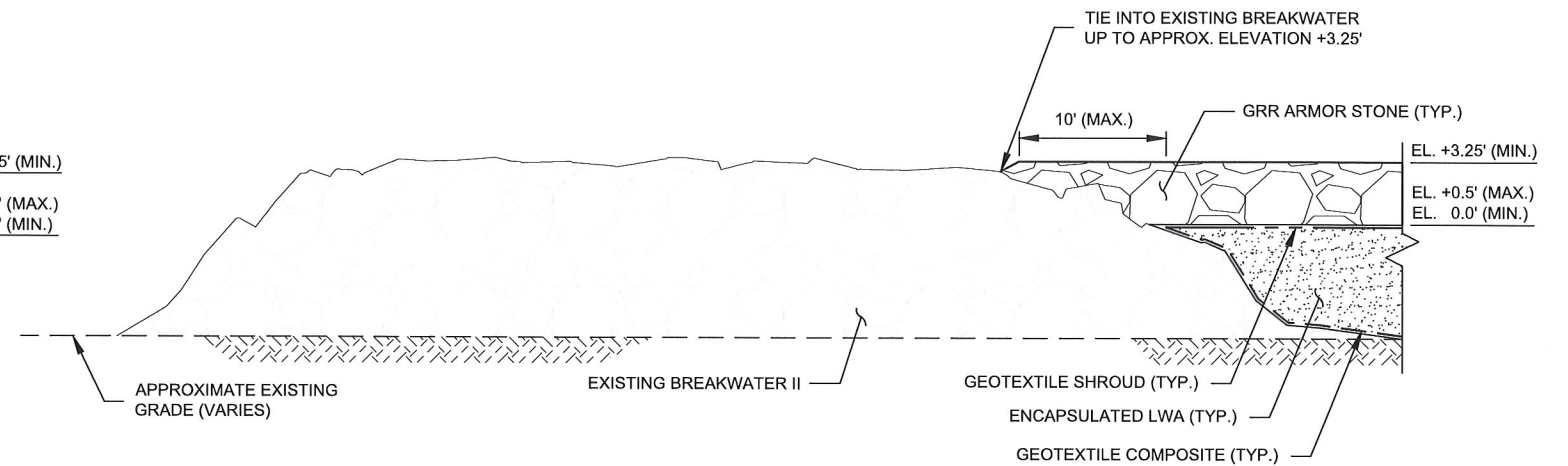
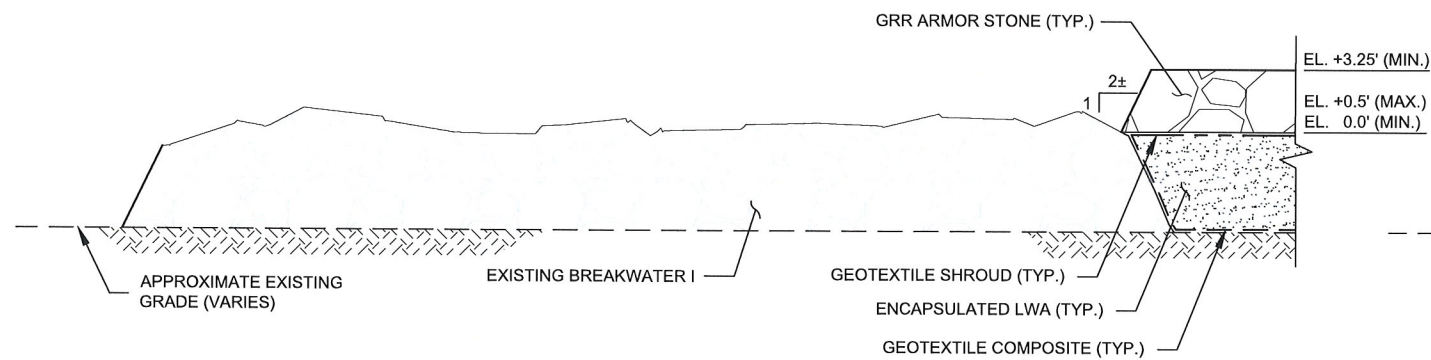
SHEET 13 OF 23





1  
8/14  
**TYPICAL DETAIL - EXISTING BREAKWATER I TIE-IN**  
SCALE: N.T.S.

3  
9/14  
**TYPICAL DETAIL - EXISTING BREAKWATER II TIE-IN**  
SCALE: N.T.S.



2  
14/14  
**TYPICAL SECTION - EXISTING BREAKWATER I TIE-IN**  
SCALE: N.T.S.

4  
14/14  
**TYPICAL SECTION - EXISTING BREAKWATER II TIE-IN**  
SCALE: N.T.S.

**LEGEND:**

- GEOTEXTILE COMPOSITE
- GEOTEXTILE SHROUD
- BREAKWATER FOOTPRINT
- GRR ARMOR STONE
- ENCAPSULATED LWA



HDR ENGINEERING, INC.

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COASTAL PROTECTION & RESTORATION AUTHORITY  
**ENGINEERING DIVISION**  
150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF  
SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

APPROVED BY: BRETT L. GEESEY, P.E.

SECTIONS AND DETAILS IV

DATE: APRIL 2017

SHEET 14 OF 23



NOTES:

1. MARINE SIGNAL LIGHT SHALL MEET REQUIREMENTS OF 33 CFR FOR CLASS "C" STRUCTURES AND HAVE, AS MINIMUM, THE FOLLOWING PROPERTIES:

RANGE: 1 MILE  
LENSE: CLEAR  
SLOW FLASH: 2.5 SEC  
ELECTRICAL RATING = 12V, 0.25A  
PEDESTAL LENGTH: 2.0'±  
SOLAR MODULE: 10W

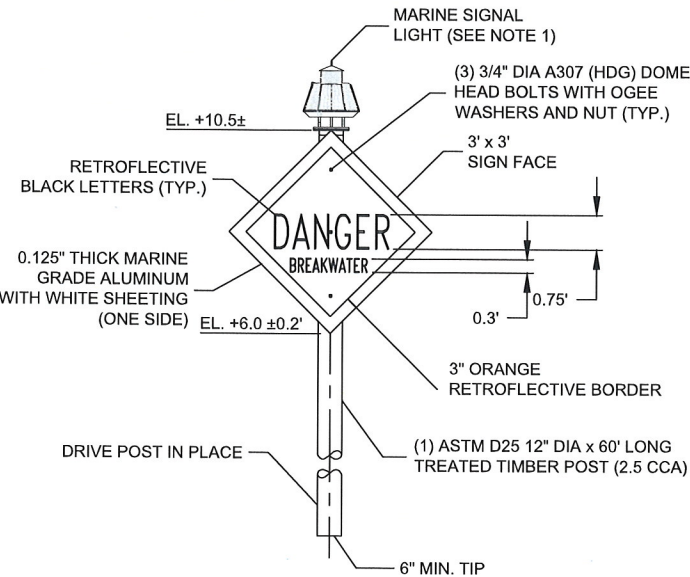
2. CONTRACTOR SHALL COORDINATE WITH U.S. COAST GUARD ON REQUIREMENTS OF TEMPORARY WARNING SIGNS, INCLUDING SIGN VERBAGE AND PLACEMENT LOCATION, PRIOR TO INSTALLATION. CONTRACTOR MAY NEED TO PHASE CONSTRUCTION ACTIVITIES FOR TEMPORARY ACCESS AND FLOTATION CHANNELS TO SUIT MAXIMUM TIME REQUIREMENTS OF U.S. COAST GUARD REGULATIONS FOR TEMPORARY MARINE/NAVIGATION MARKERS. ANY CHANGES SHALL BE COORDINATED WITH ENGINEER PRIOR TO INSTALLATION.

3. OTHER FORMS OF TEMPORARY WARNING SIGNS MAY BE USED WITH PRIOR APPROVAL OF U.S. COAST GUARD AND ENGINEER'S REVIEW.

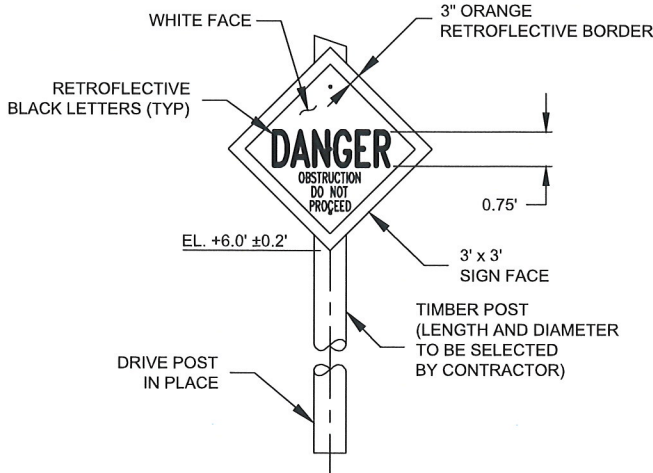
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TEMPORARY WARNING SIGNS UNTIL REMOVAL OF TEMPORARY STOCKPILES.

5. ALL SIGN FACES SHALL BE ORIENTED TO FACE PREDOMINANT APPROACH DIRECTION OF ONCOMING BOAT TRAFFIC.

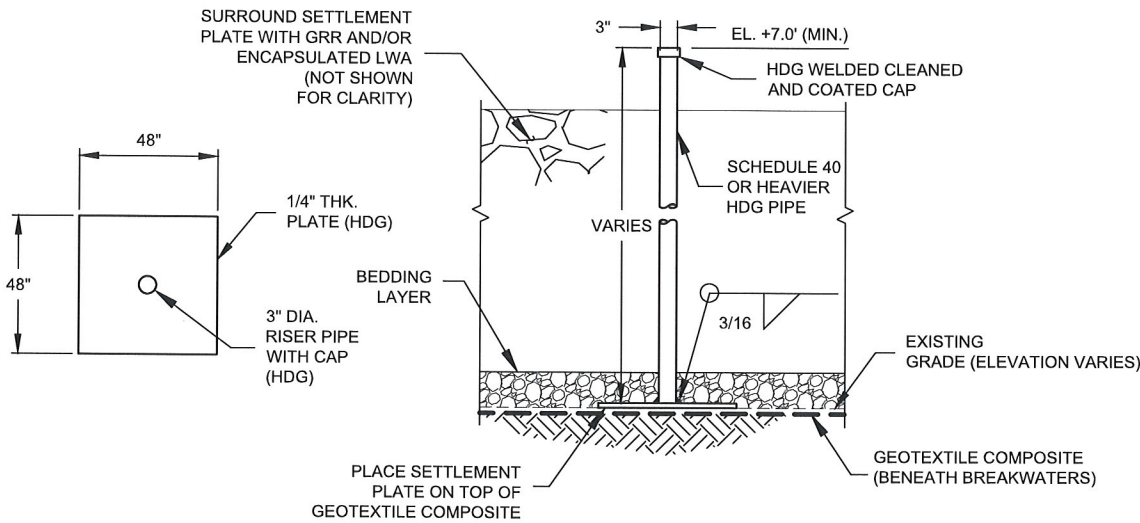
6. SETTLEMENT PLATE LOCATIONS SHOWN ON SHEETS 6 TO 10 ARE SCHEMATIC. SETTLEMENT PLATES SHALL BE PLACED ALONG APPROXIMATE BREAKWATER CENTERLINE (CENTERLINE OF BREAKWATER CREST). MAXIMUM SPACING OF SETTLEMENT PLATES SHALL BE 1,000 FEET TO FACILITATE IN-PLACE MEASUREMENTS FOR PAYMENT SUBSTANTIATION PURPOSES. TOTAL NUMBER OF SETTLEMENT PLATES SHALL BE AS IDENTIFIED IN THE SUMMARY OF ESTIMATED QUANTITIES ON SHEET 2. CONTRACTOR SHALL PROVIDE SETTLEMENT PLATE COORDINATES TO ENGINEER A MINIMUM OF 14 DAYS PRIOR TO INSTALLATION FOR APPROVAL.



1  
12 15  
DETAIL-  
LIGHTED DAYBEACON  
SCALE: N.T.S.

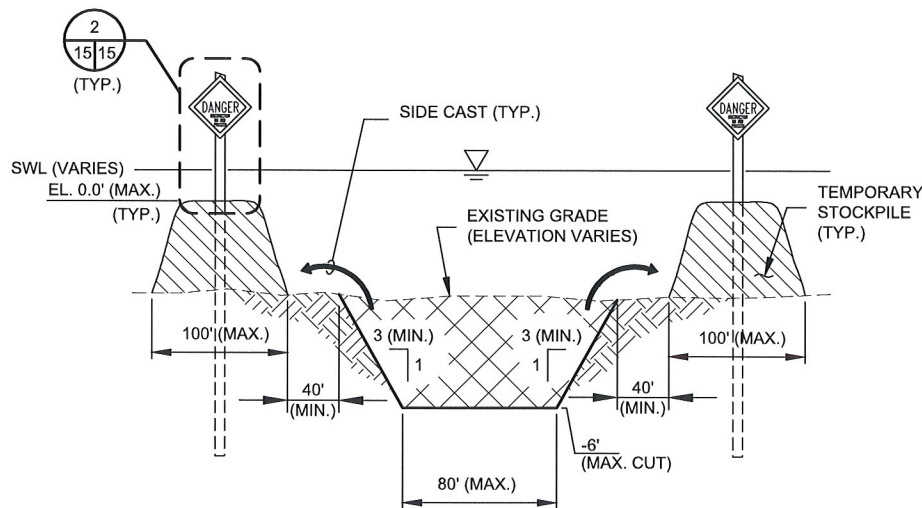


2  
6 15  
DETAIL-  
TEMPORARY WARNING SIGN (SEE NOTE 2)  
SCALE: N.T.S.



PLAN  
ELEVATION (BREAKWATERS)

3  
6 15  
DETAIL - SETTLEMENT PLATES  
SCALE: N.T.S.



4  
6 15  
TYPICAL SECTION - TEMPORARY ACCESS CHANNEL  
SCALE: N.T.S.

LEGEND:	
	GEOTEXTILE COMPOSITE
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE



HDR ENGINEERING, INC.

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COASTAL PROTECTION & RESTORATION AUTHORITY  
ENGINEERING DIVISION

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF  
SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

APPROVED BY: BRETT L. GEESBY, P.E.

MISCELLANEOUS DETAILS

DATE: APRIL 2017

SHEET 15 OF 23



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BREAKWATER ALIGNMENT COORDINATES		
POINT	NORTHING	EASTING
A1	421377	2812286
A2	421226	2812575
A3	421103	2812813
A4	420938	2812956
A5	420833	2813119
A6	420776	2813269
A7	420706	2813454
A8	420651	2813689
A9	420627	2813785
A10	420568	2813814
A11	420601	2813885
A12	420581	2813965
A13	420344	2814468
A14	420166	2814844
A15	420032	2815163
A16	419992	2815278
A17	419931	2815302
A18	419958	2815376
A19	419935	2815442
A20	419681	2815999
A21	419480	2816668
A22	419451	2816723
A23	419387	2816738
A24	419403	2816815
A25	419355	2816907
A26	418808	2817960
A27	418744	2817975
A28	418760	2818051
A29	418741	2818088
A30	418430	2818380
A31	418198	2818792
A32	417874	2819242
A33	417690	2819331
B1	417445	2819632
B2	417459	2819907

BREAKWATER ALIGNMENT COORDINATES		
POINT	NORTHING	EASTING
B3	417387	2820032
B4	417271	2820384
B5	417238	2820532
B6	417181	2820563
B7	417216	2820633
B8	417160	2820889
B9	417065	2821096
B10	416749	2821472
B11	416479	2821662
C1	416192	2822093
C2	416187	2822356
C3	416205	2822642
C4	416193	2822778
C5	416181	2822837
C6	416021	2823202
C7	415986	2823251
C8	415922	2823257
C9	415927	2823335
C10	415891	2823387
C11	415781	2823458
C12	415685	2823797
C13	415737	2823972
C14	415667	2824381
C15	415618	2824815
C16	415582	2824880
C17	415518	2824893
C18	415531	2824970
C19	415494	2825037
C20	415508	2825167
C21	415632	2825353
C22	415815	2825363
C23	415911	2825335
C24	416038	2825334
C25	416441	2825410



HDR ENGINEERING, INC.

0	04/25/17	ISSUED FOR BIDDING	BLG
REV.	DATE	DESCRIPTION	BY



COASTAL PROTECTION & RESTORATION AUTHORITY  
ENGINEERING DIVISION

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

ROCKEFELLER REFUGE GULF  
SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

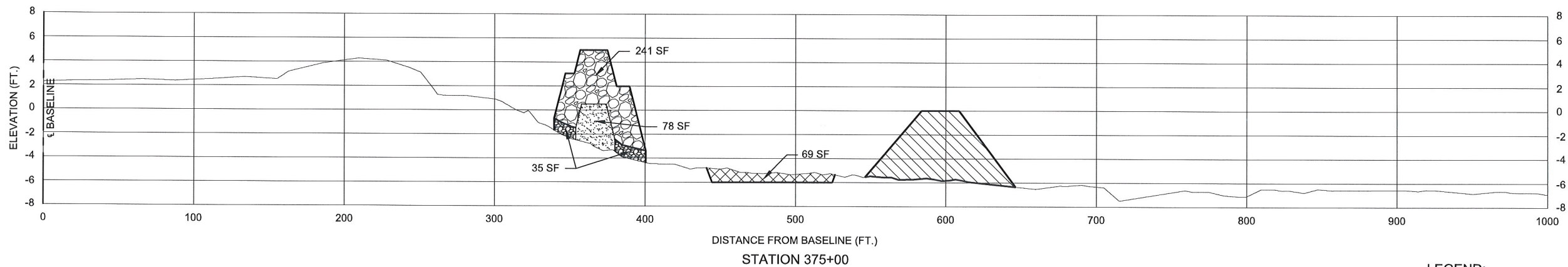
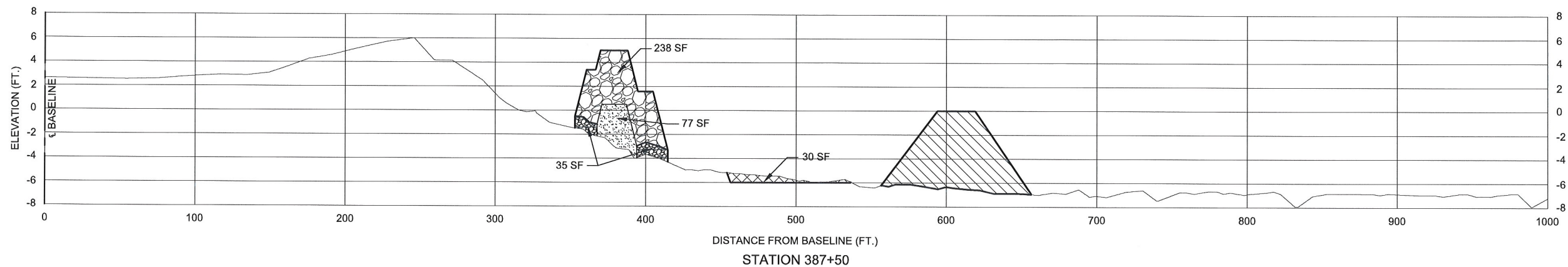
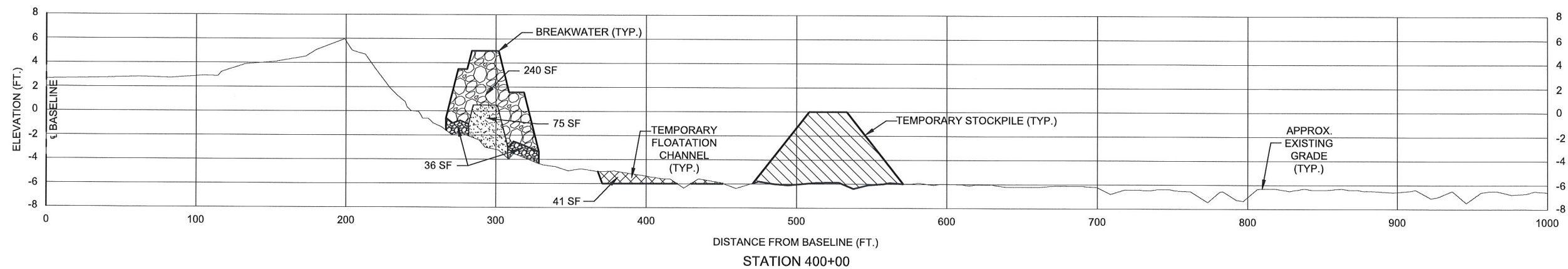
APPROVED BY: BRETT L. GEESEY, P.E.

LOCATION POINT TABLES

DATE: APRIL 2017

SHEET 16 OF 23





#### NOTES:

- LWA CORE SHOWN SCHEMATICALLY AND IS NOT TO SCALE. ACTUAL GEOMETRY AND CONFIGURATION OF CONTAINERS/BAGS MAY VARY AS REQUIRED TO PROVIDE OVERALL DIMENSION SHOWN.
- CROSS SECTIONS SHOWN ARE ORIENTED PERPENDICULAR TO BREAKWATER ALIGNMENT.
- NEAT LINE AREAS SHOWN ARE APPROXIMATE ESTIMATES PROVIDED FOR CONTRACTOR'S CONVENIENCE (FOR INFORMATIONAL PURPOSES ONLY - NOT FOR BID) CONTRACTOR SHALL PERFORM HIS OWN MEASUREMENT TAKE-OFFS AND QUANTITY COMPUTATIONS.
- BREAKWATER CROSS SECTIONS REPRESENT MAXIMUM ARMOR STONE THICKNESS AND MAXIMUM ENCAPSULATED LWA CORE ELEVATIONS AND DO NOT DEPICT POTENTIAL SETTLEMENT. ACTUAL BREAKWATER CREST ELEVATIONS MAY VARY. REFER TO TYPICAL SECTIONS AND DETAILS ON SHEETS 11 AND 12 FOR BREAKWATER CONSTRUCTION TOLERANCES.
- TEMPORARY FLOTATION CHANNELS AND TEMPORARY STOCKPILES SHOWN REPRESENT MAXIMUM ALLOWABLE LIMITS. ACTUAL CONSTRUCTED DIMENSIONS MAY VARY WITHIN LIMITS SHOWN.

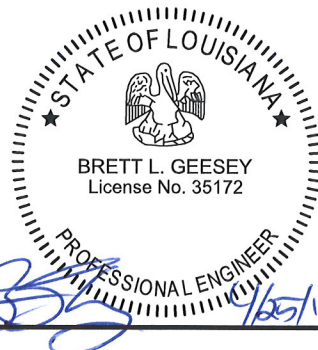
#### LEGEND:

	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE



HDR ENGINEERING, INC.

REV.	DATE	DESCRIPTION	BY
0	04/25/17	ISSUED FOR BIDDING	BLG



#### COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION

150 TERRACE AVENUE  
BATON ROUGE, LOUISIANA 70802

DRAWN BY: E. CONTRERAS

DESIGNED BY: ERIN ROONEY, P.E.

#### ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT

STATE PROJECT NUMBER: ME-18

FEDERAL PROJECT NUMBER: ME-18

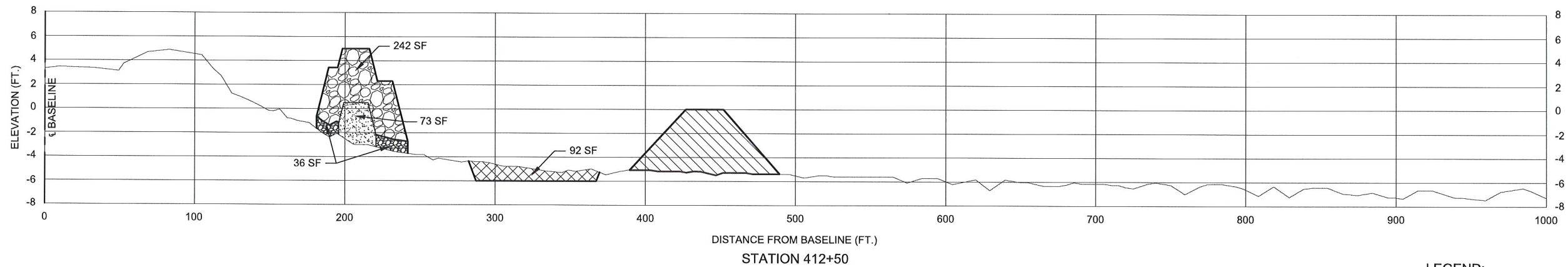
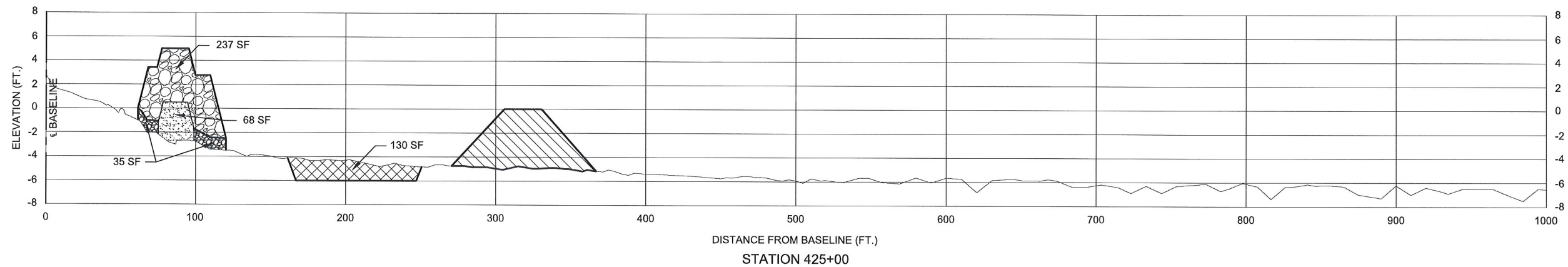
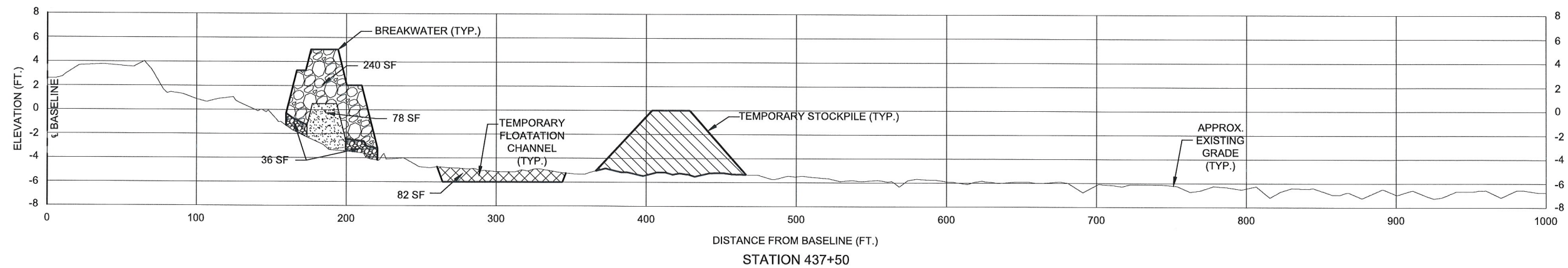
APPROVED BY: BRETT L. GEESEY, P.E.

#### CROSS SECTIONS I

DATE: APRIL 2017

SHEET 17 OF 23

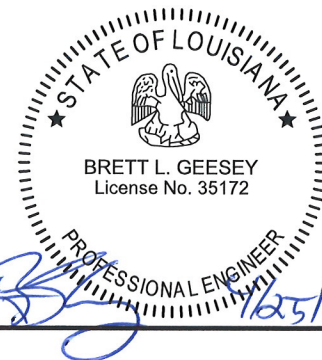




LEGEND:	
	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE

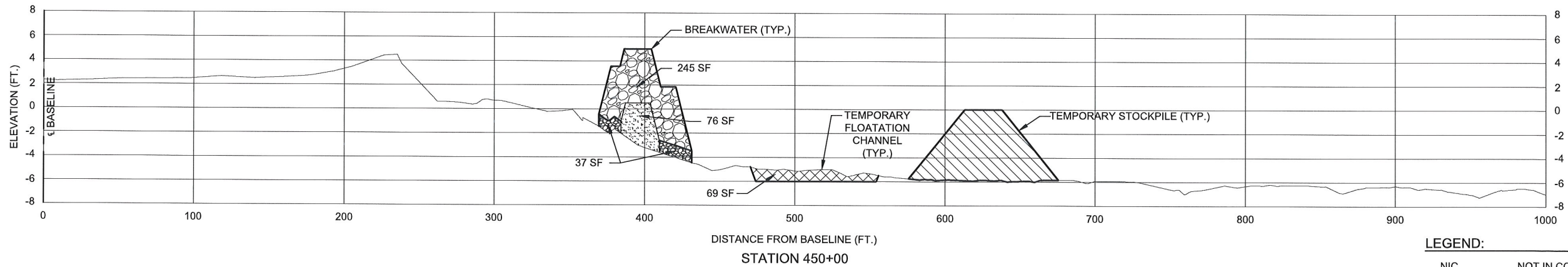
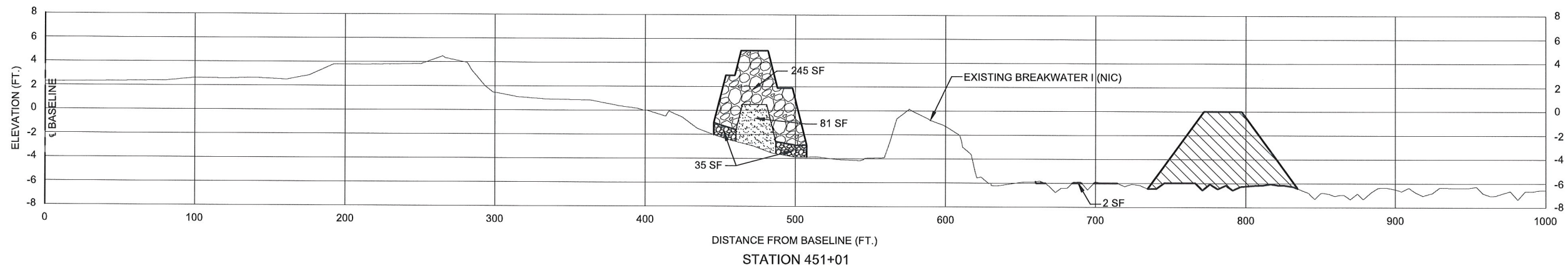
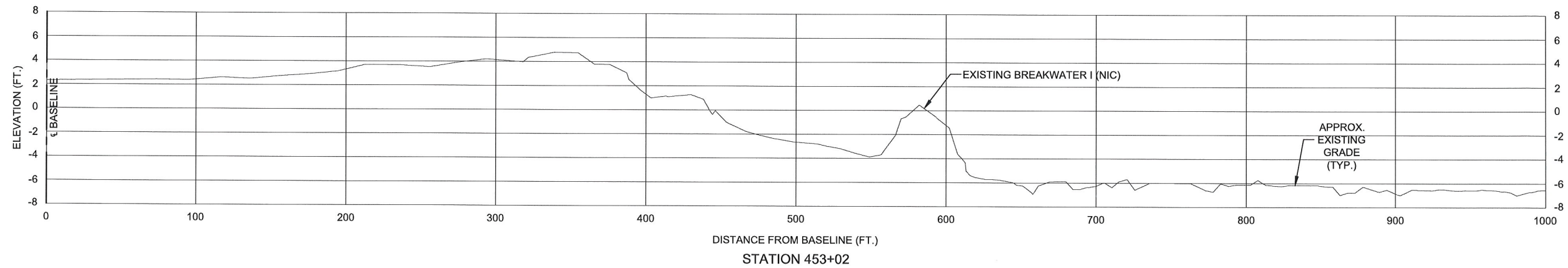
NOTES:  
1. SEE NOTES ON SHEET 17.

	HDR ENGINEERING, INC.	
REV.	DATE	DESCRIPTION
0	04/25/17	ISSUED FOR BIDDING




COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802	ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS II
DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.	DATE: APRIL 2017
APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 18 OF 23	





LEGEND:	
NIC	NOT IN CONTRACT
	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE

NOTES:  
1. SEE NOTES ON SHEET 17.



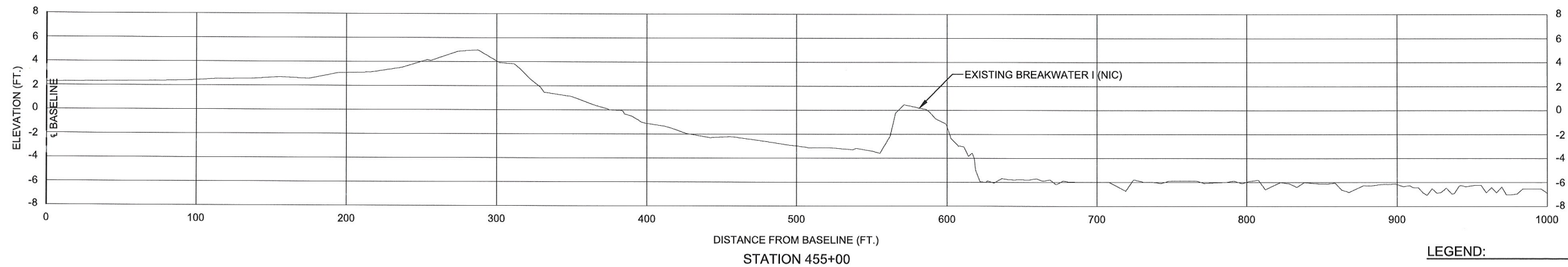
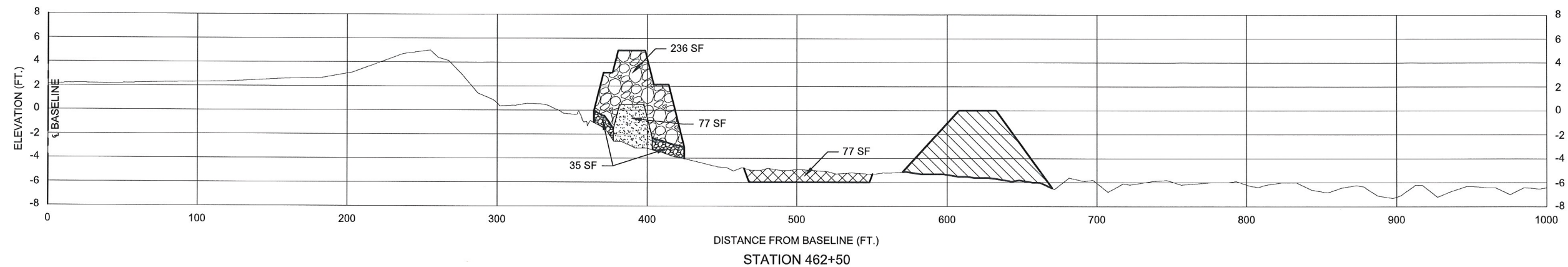
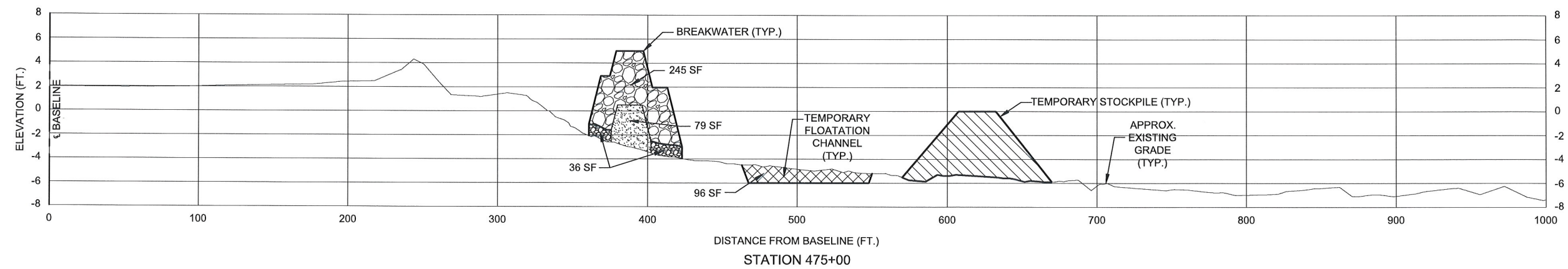
HDR ENGINEERING, INC.

0	04/25/17	ISSUED FOR BIDDING	BLG
REV.	DATE	DESCRIPTION	BY



COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS III
		STATE PROJECT NUMBER: ME-18		
		FEDERAL PROJECT NUMBER: ME-18		DATE: APRIL 2017
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.	APPROVED BY: BRETT L. GEESEY, P.E.	SHEET 19 OF 23	






LEGEND:

NIC	NOT IN CONTRACT
	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE

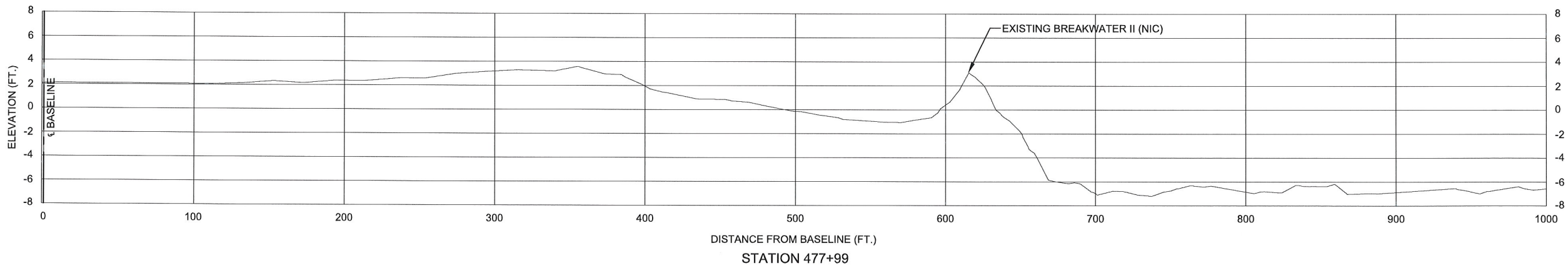
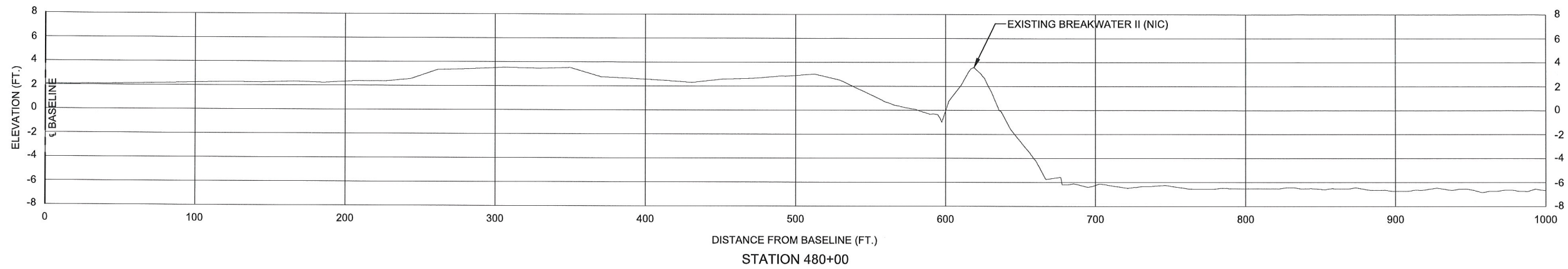
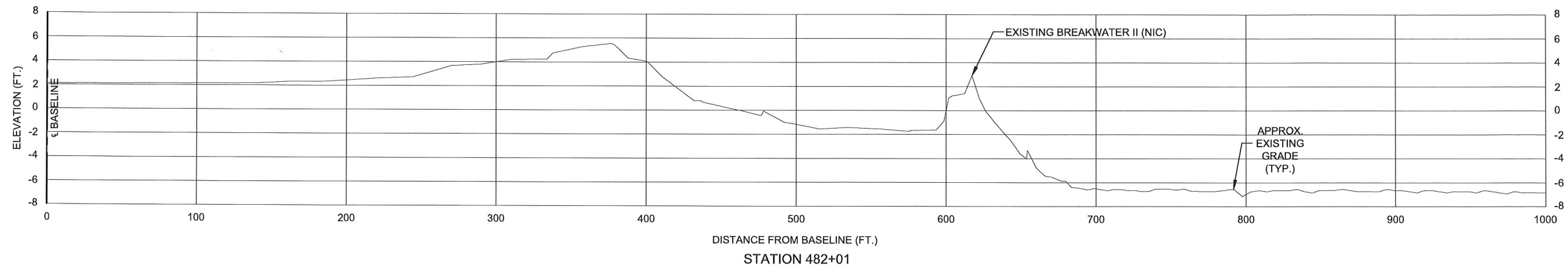
NOTES:  
1. SEE NOTES ON SHEET 17.

 HDR ENGINEERING, INC.				
	0	04/25/17	ISSUED FOR BIDDING	BLG
	REV.	DATE	DESCRIPTION	BY




COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS IV
		STATE PROJECT NUMBER: ME-18		
				FEDERAL PROJECT NUMBER: ME-18
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.	APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 20 OF 23





LEGEND:  
NIC NOT IN CONTRACT

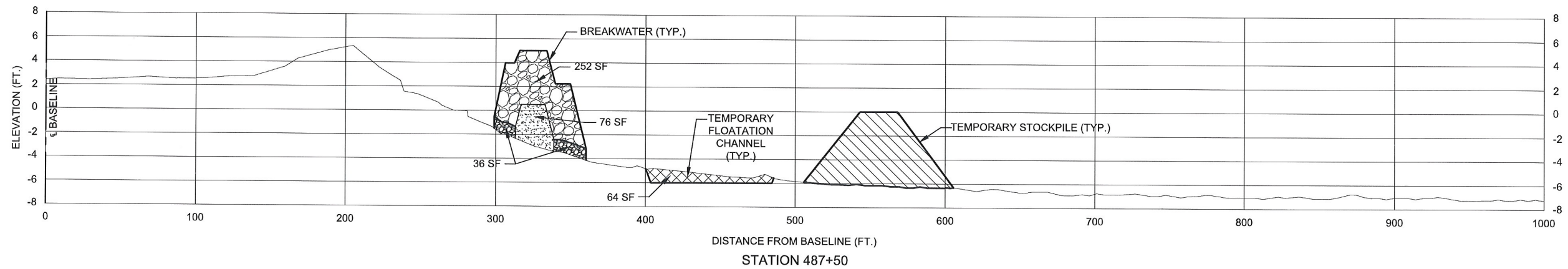
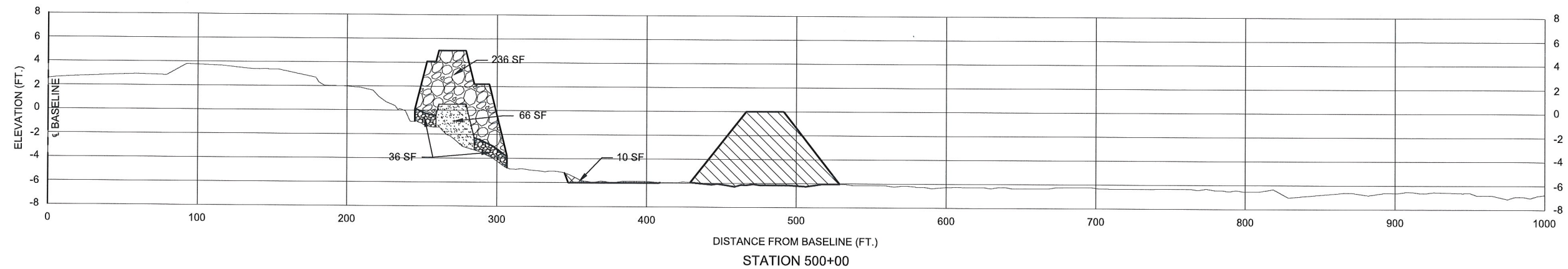
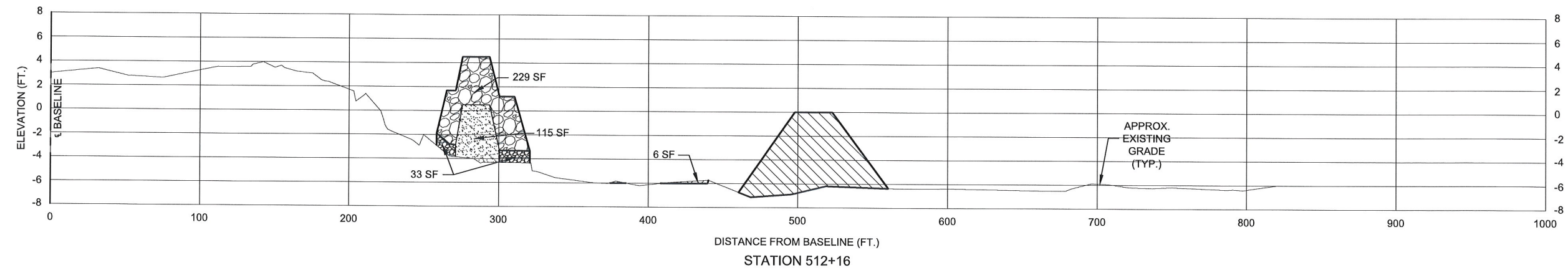
NOTES:  
1. SEE NOTES ON SHEET 17.

 HDR ENGINEERING, INC.				
	0	04/25/17	ISSUED FOR BIDDING	BLG
	REV.	DATE	DESCRIPTION	BY



COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION  150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS V
		STATE PROJECT NUMBER: ME-18		
		FEDERAL PROJECT NUMBER: ME-18		DATE: APRIL 2017
DRAWN BY: E. CONTRERAS	DESIGNED BY: ERIN ROONEY, P.E.	APPROVED BY: BRETT L. GEESSEY, P.E.		SHEET 21 OF 23





**LEGEND:**

	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE

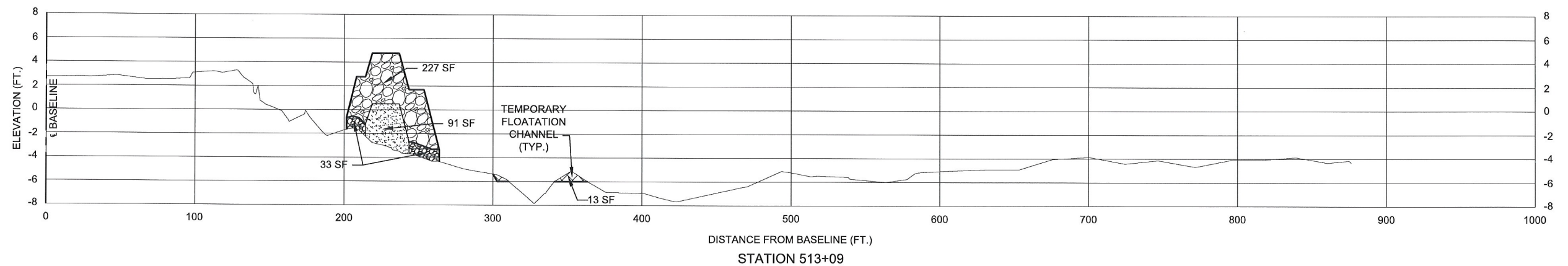
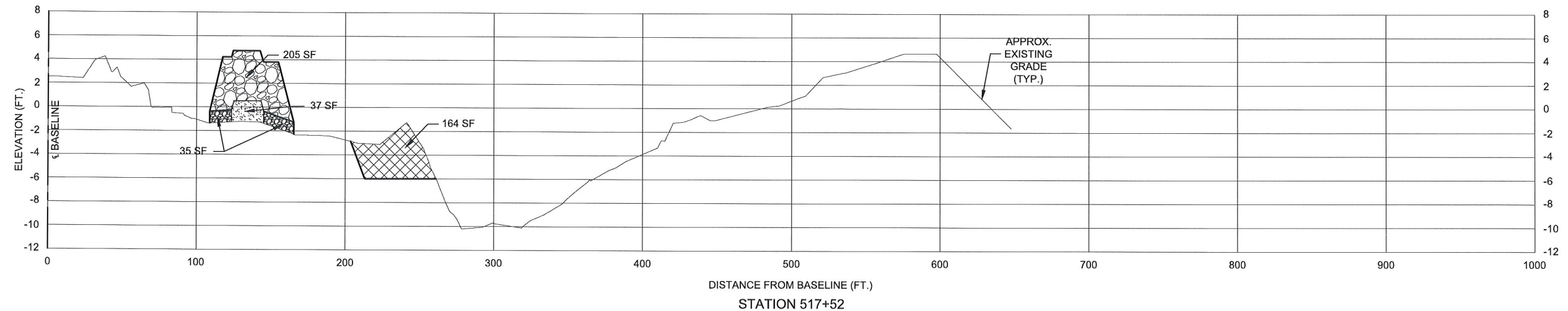
**NOTES:**  
1. SEE NOTES ON SHEET 17.

 HDR ENGINEERING, INC.					
	0	04/25/17	ISSUED FOR BIDDING	BLG	
REV.		DATE	DESCRIPTION	BY	




COASTAL PROTECTION & RESTORATION AUTHORITY <b>ENGINEERING DIVISION</b> 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS VI
DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.		DATE: APRIL 2017
APPROVED BY: BRETT L. GEESEY, P.E.				SHEET 22 OF 23





LEGEND:	
	GRR ARMOR STONE
	ENCAPSULATED LWA
	GRR BEDDING STONE
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY STOCKPILE

NOTES:  
1. SEE NOTES ON SHEET 17.

 HDR ENGINEERING, INC.				
	0	04/25/17	ISSUED FOR BIDDING	BLG
	REV.	DATE	DESCRIPTION	BY



COASTAL PROTECTION & RESTORATION AUTHORITY ENGINEERING DIVISION 150 TERRACE AVENUE BATON ROUGE, LOUISIANA 70802		ROCKEFELLER REFUGE GULF SHORELINE STABILIZATION PROJECT		CROSS SECTIONS VII	
		STATE PROJECT NUMBER: ME-18			
		DRAWN BY: E. CONTRERAS		DESIGNED BY: ERIN ROONEY, P.E.	
		APPROVED BY: BRETT L. GEESEY, P.E.		SHEET 23 OF 23	